Plasma Panel Monitors
Triage & Troubleshooting Guide

PFM42V1

PFM42X1

FWD42PV1

FWD50PX1

FWD50PX2

Plasma Monitors
Models:
PFM42V1
PFM42X1
FWD42PV1
FWD50PX1
FWD50PX2

Triage and Troubleshooting

Course: PDP-04

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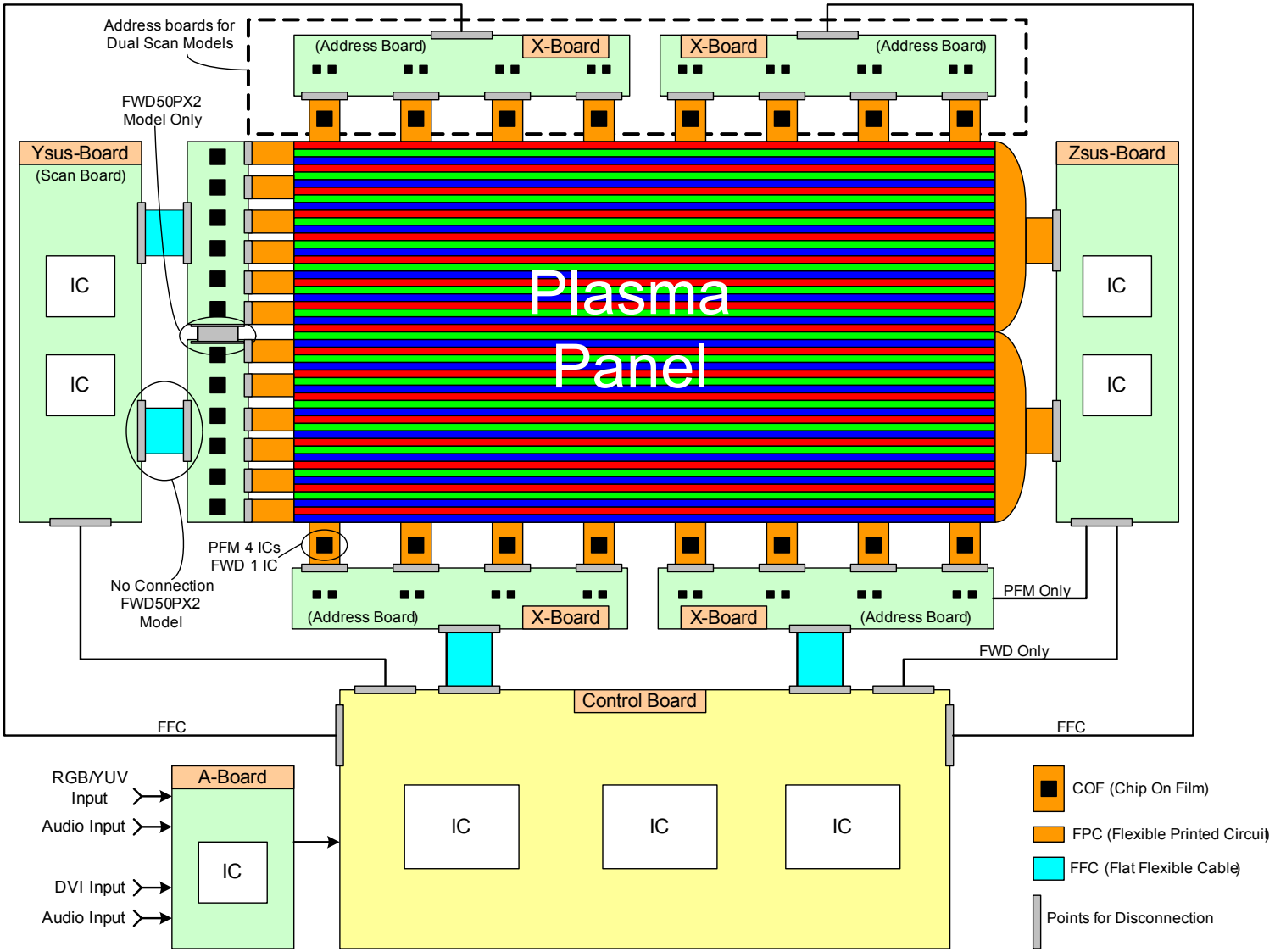
General PFM & FWD Plasma Monitor Information



General Plasma Panel Block Diagram

Service Modes and Adjustments

Accessing & Navigating Service Modes

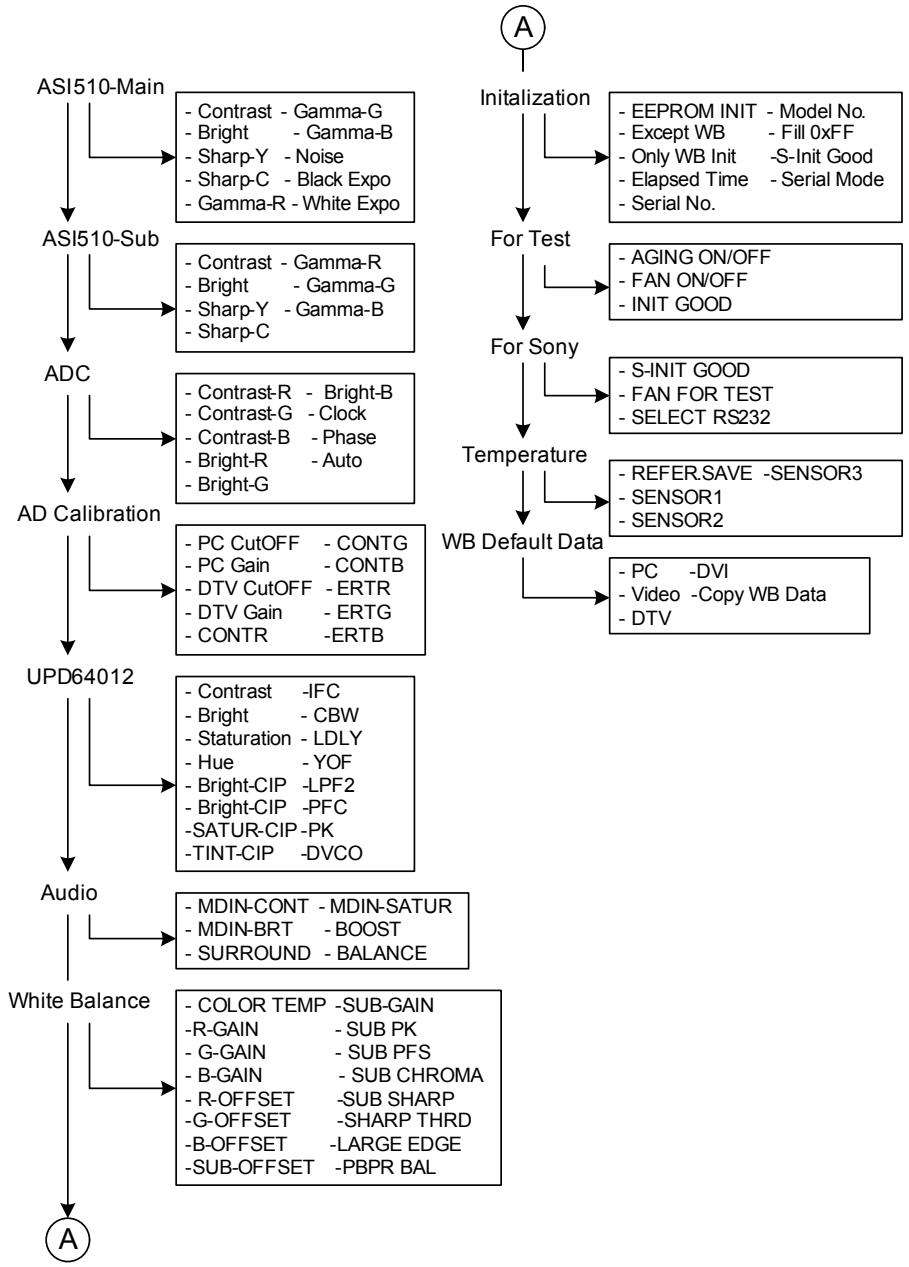
PFM42V1, PFM42X1, FWD42PV1, FWD50PX2

ENTER → 1 → 8 → 2

Use the **Right & Left arrows** to scroll through the main service mode categories

Use the **Up/Down arrows** to scroll through the sub category items

Use the **ENTER key** to select and adjust a particular item

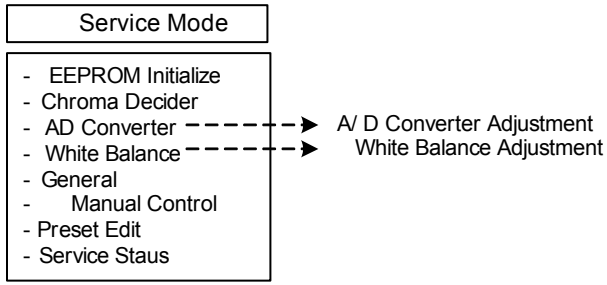


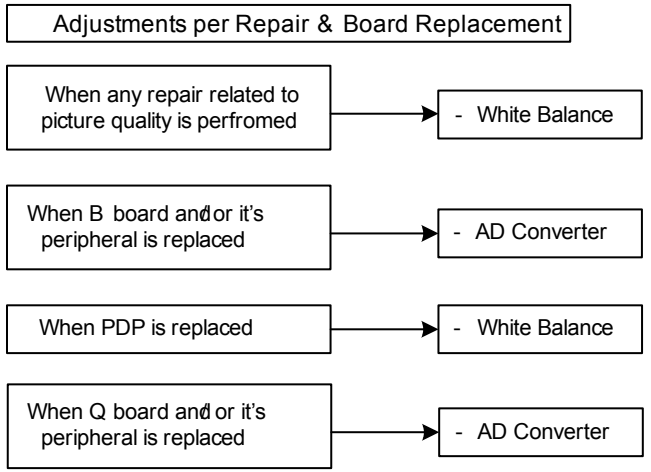
FWD50PX1

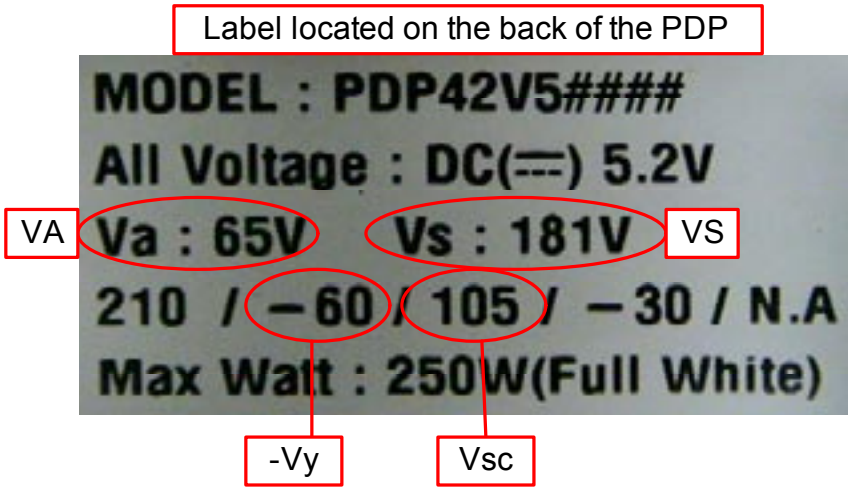
Place unit in **Standby Mode**

Press **DISPLAY → 5 → VOL + → POWER**

Use the **Right & Left arrows** to scroll through the main service mode categories




Adjustments per Repair & Board Replacement
When any repair related to picture quality is perfromed
- White Balance
When B board and/or it's peripheral is replaced
- AD Converter
When PDP is replaced
- White Balance
When Q board and/or it's peripheral is replaced
- AD Converter



Plasma Panel Voltage Label

Use the **Up/Down arrows** to scroll through the sub category items

Use the **ENTER key** to select and adjust a particular item

Board Replacement & Adjustments

G-Board – Adjustment VA, VS per the levels indicated on the label located on the rear of the Plasma panel. Input and display a Full White raster for adjustment.

Ysus Board – Adjustment VA, VS, Vsc, -Vy per the levels indicated on the label located on the rear of the Plasma panel. Input and display a Full White raster for adjustment.

Zsus Board – Adjustment VA, VS per the levels indicated on the label located on the rear of the Plasma panel. Input and display a Full White raster for adjustment.

Address Board – Adjustment VA, VS per the levels indicated on the label located on the rear of the Plasma panel. Input and display a Full White raster for adjustment.

Control Board - Adjustment VA, VS, Vsc, -Vy per the levels indicated on the label located on the rear of the Plasma panel. Input and display a Full White raster for adjustment.

Plasma Panel – Adjustment VA, VS per the levels indicated on the label located on the rear of the Plasma panel. Adjust White Balance and AD Calibration per the procedure found in the unit Service Manual. Input and display a Full White raster for adjustment.

A or B Board – Adjust White Balance and AD Calibration per the procedure found in the unit Service Manual.

Voltage Checks

Power Supplies

G-Board

VA – Reference label on the rear of Plasma Panel for correct voltage level (Input and display a Full White raster for adjustment)

VS – Reference label on the rear of Plasma Panel for correct voltage level (Input and display a Full White raster for adjustment)

Standby 5V

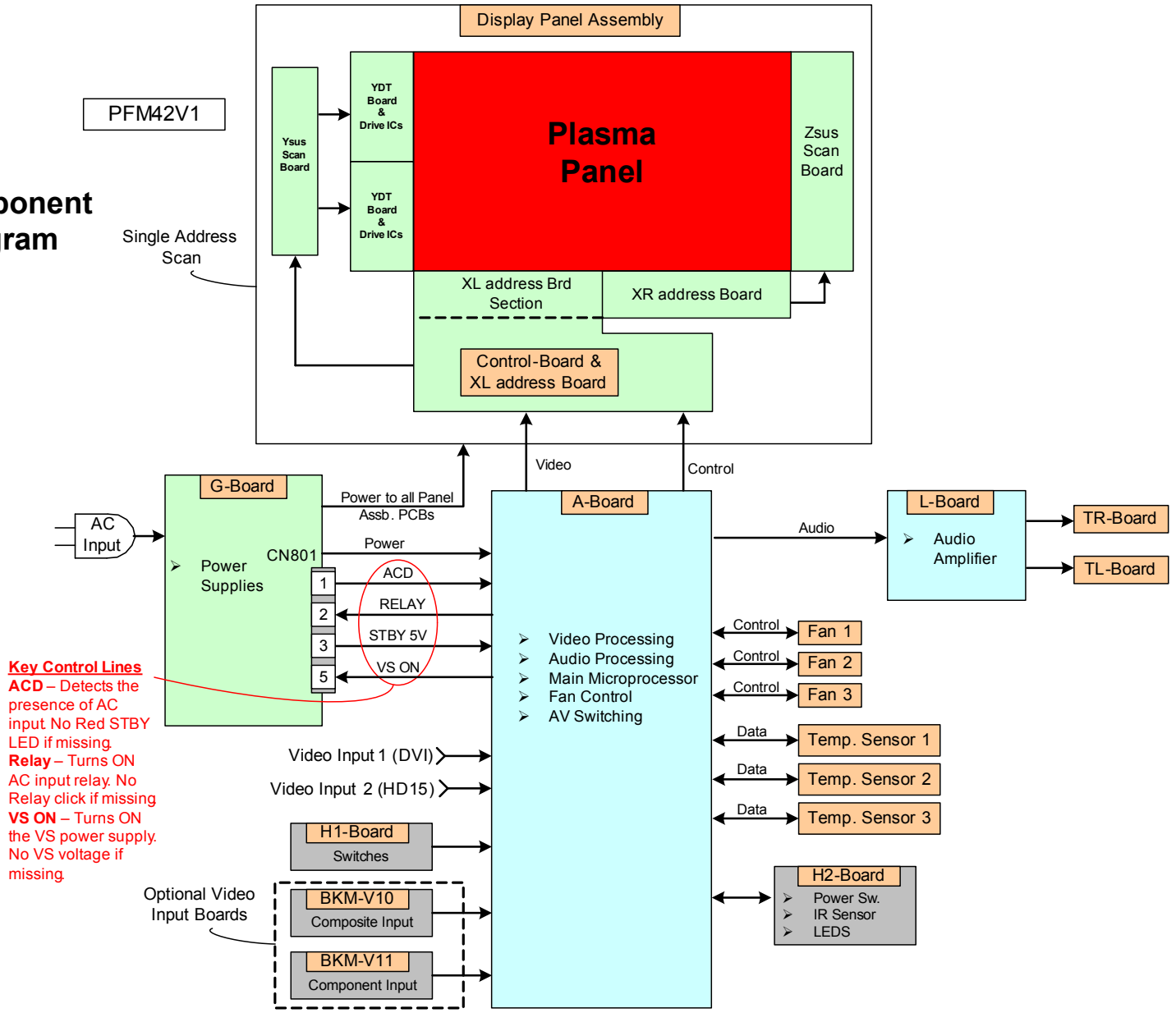
Operating 5V

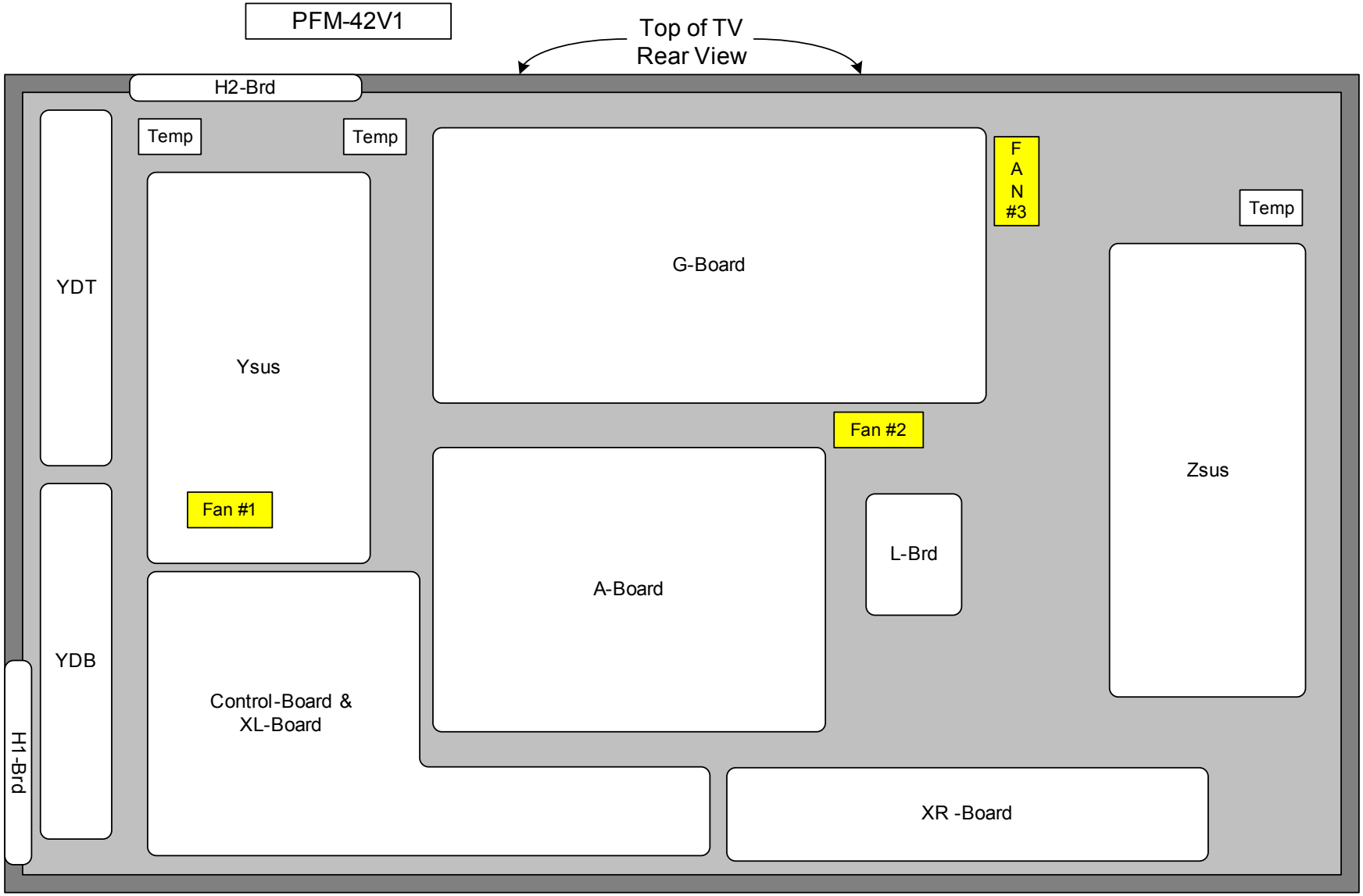
Ysus Board

Vsc – reference label on the rear of Plasma Panel for correct voltage level

-Vy – reference label on the rear of Plasma Panel for correct voltage level

Overall Component Block Diagram





PCB Location Diagram

Board Reference	PFM42V1							
	Amber LED ON	Red LED ON No Green LED	No Red LED No Green LED	Stationary V or H Line Failure	No Video (Green LED) (No Primer)	No Video (Green LED) (Primer OK)	No Audio	Part #
A	●	▲				●	▲	1-761-811-11
G		●	●		▲		▲	1-761-810-11
Control Brd						▲		1-761-875-11
Ysus Brd					●			1-761871-11
AC Input			●					Check Condition
Plasma Panel				*●				1-805-424-11
L							●	1-761-812-11

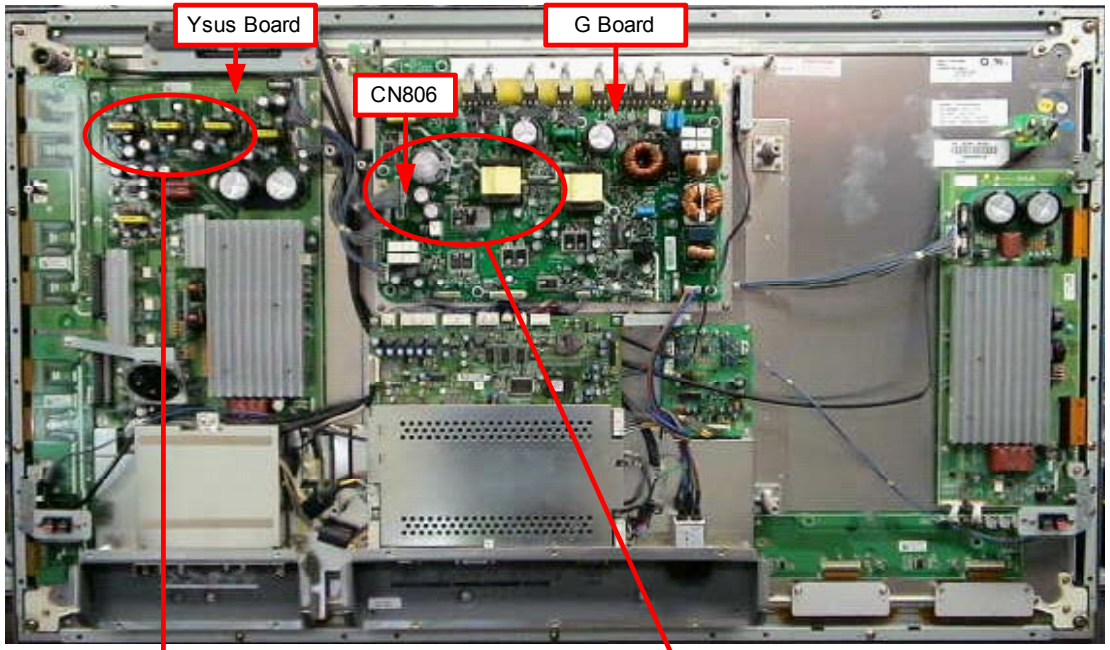
***NOTE:** Check the Panel Distortion diagrams on the following pages for further failure symptoms and component replacement recommendations.

● **Primary Defective Part**

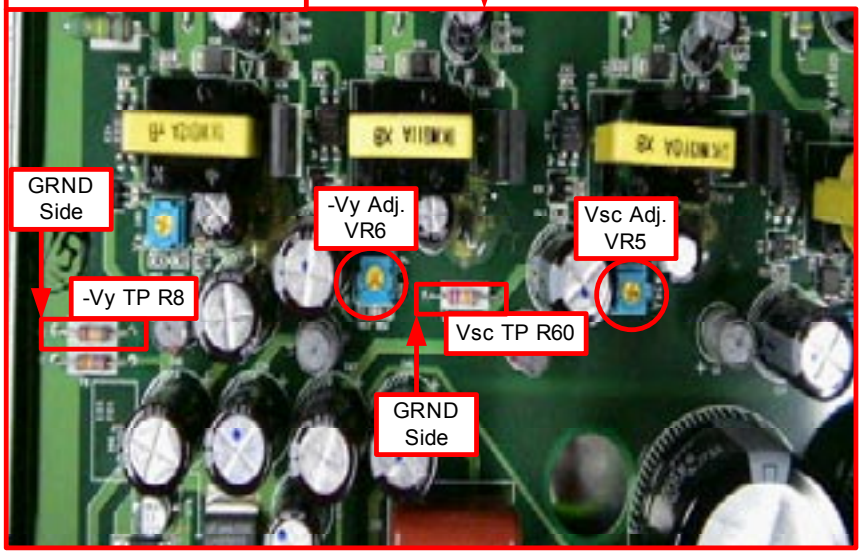
▲ **Secondary Defective Part**

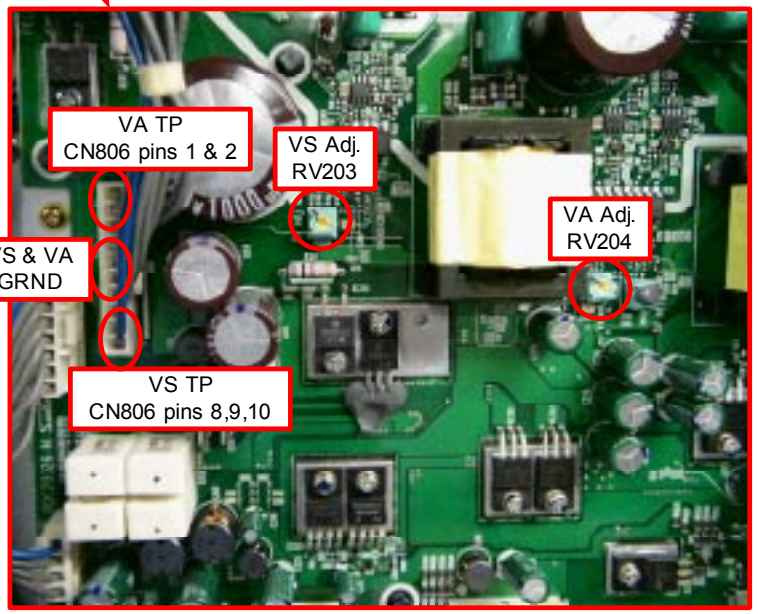
Triage Chart

PFM-42V1 VS, VA, -Vy, Vsc Adjustments

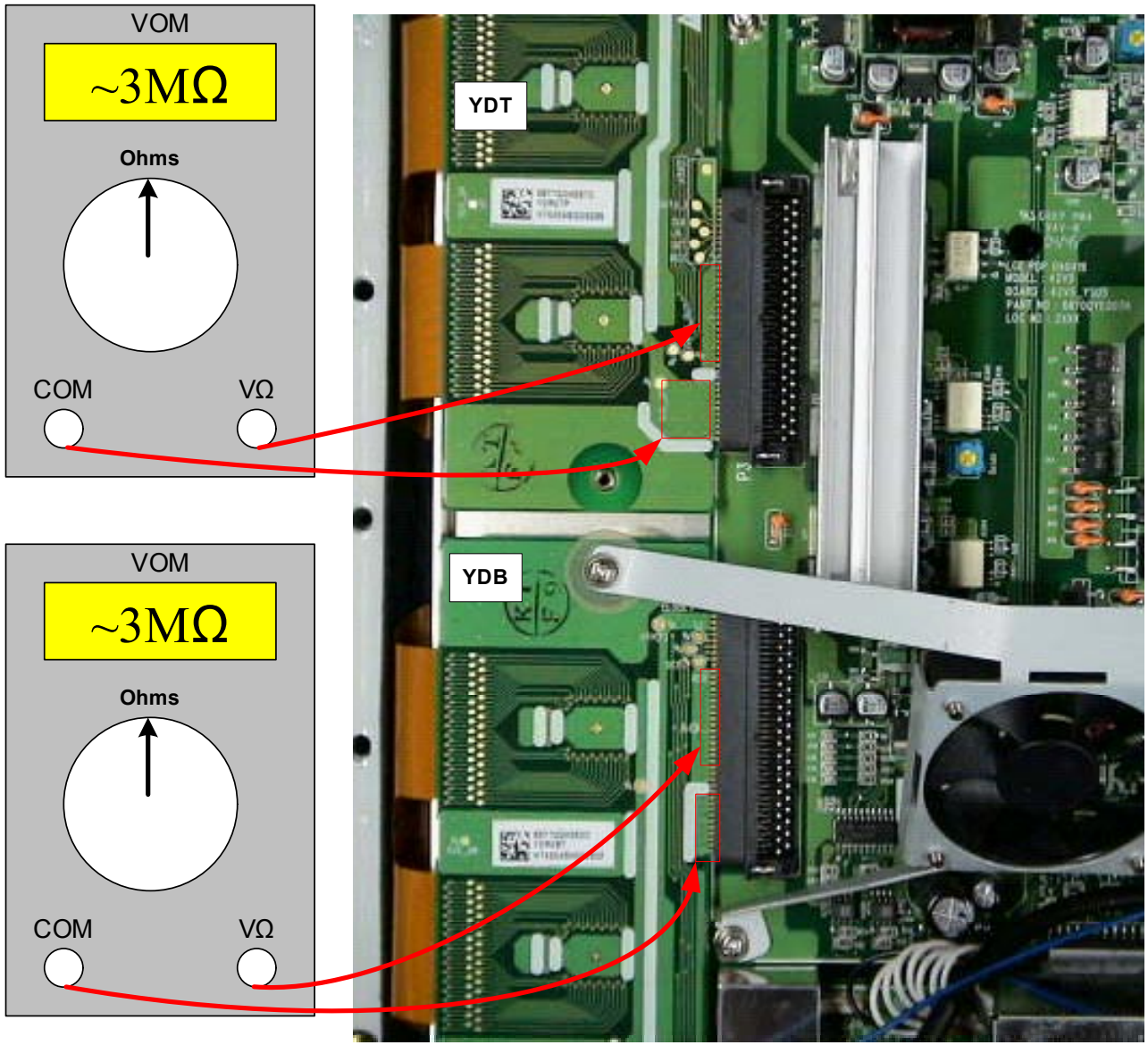


NOTE: Measure -Vy & Vsc across resistors





PFM-42V1 YDT & YDB
Resistance Check

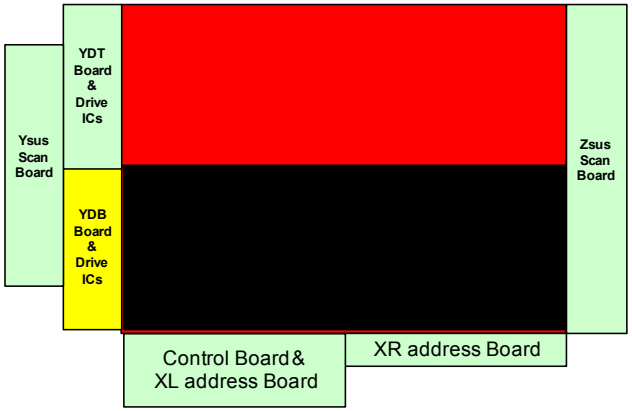


CAUTION: Remove power from unit before making the resistance measurement

NOTE: The resistance measurement between the com and VS voltage pads should read approximately 3M ohms with voltmeter leads oriented as shown in the diagram. If the voltmeter leads are reverse the reading will be infinite.

A typical faulty reading is 500 ohms. Replace the YDT or YDB if a low resistance is measured.

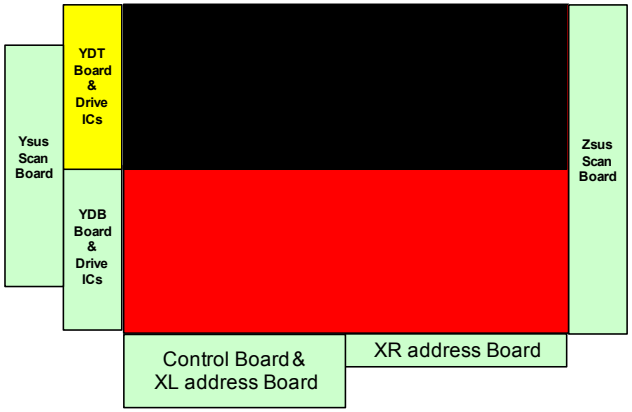
Panel Distortion Diagrams



No Video (Horizontal Black Bar) lower 1/2 of screen

1st – Confirm secure connections between Ysus and YDB boards. Check Flex Cable between YDB and Panel Assembly for physical damge.

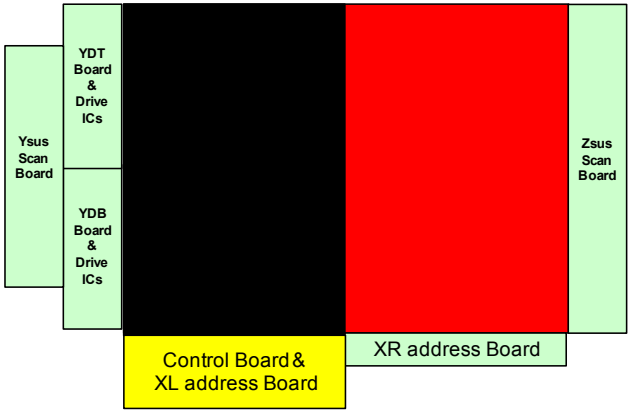
Replace YDB board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable NG)



No Video (Horizontal Black Bar) upper 1/2 of screen

1st – Confirm secure connections between Ysus and YDT boards. Check Flex Cable between YDT and Panel Assembly for physical damge.

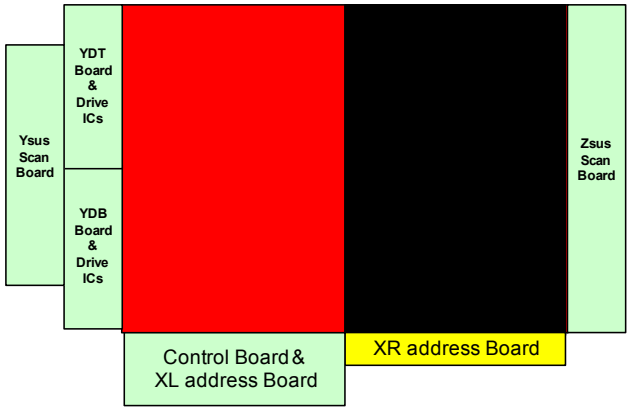
Replace YDT board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable NG)



No Video (Vertical Black Bar) 1/2 of screen

1st – Confirm secure connections between Control /XL Board and the Panel Assembly.

Replace Control /XL Board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable NG)



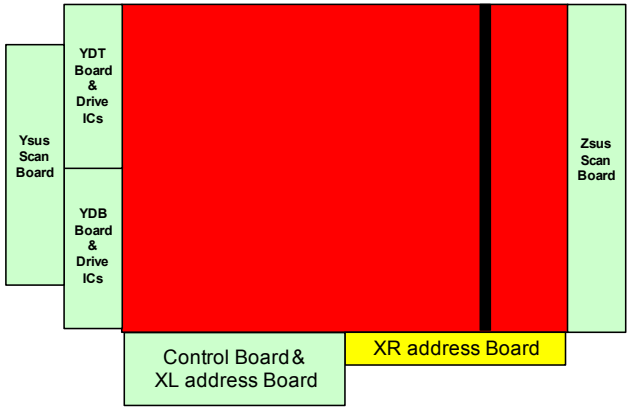
No Video (Vertical Black Bar) 1/2 of screen

1st – Confirm secure connections between XR and Control /XL Boards.

2nd – Confirm 5V and VA voltages to XR board.

3rd – Replace boards in the following order.

A) Replace XR-Board
B) Replace Control Board



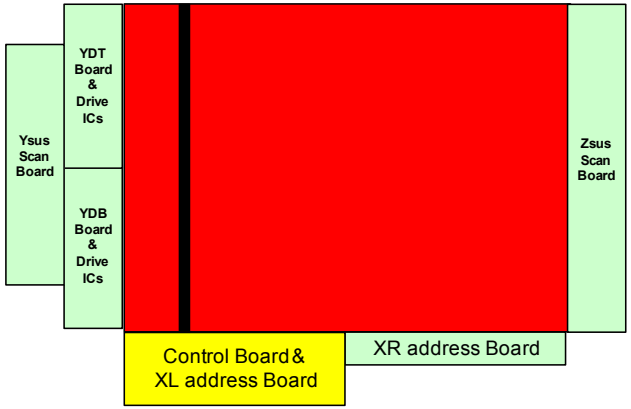
Single Vertical Black Line (right side of screen)

1st – Confirm secure connections between XR and Control/XL Board.

2nd – Check the drive ICs on the flex cables between the XR and Panel for physical damage.

Replace Panel Assembly for defective flex cable ICs

3rd – Replace XR board



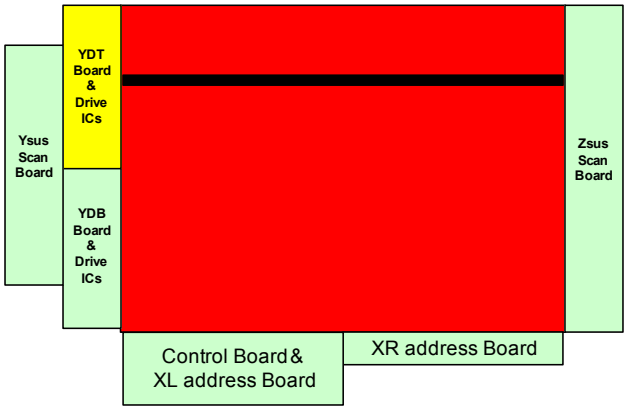
Single Vertical Black Line (left side of screen)

1st – Confirm secure connections between Control / XL Board and the Panel Assembly.

2nd – Check the drive ICs on the flex cables between the Control/XL board and Panel for physical damage.

Replace Panel Assembly for defective flex cable ICs

3rd – Replace Control/XL board (Flex ICs OK)



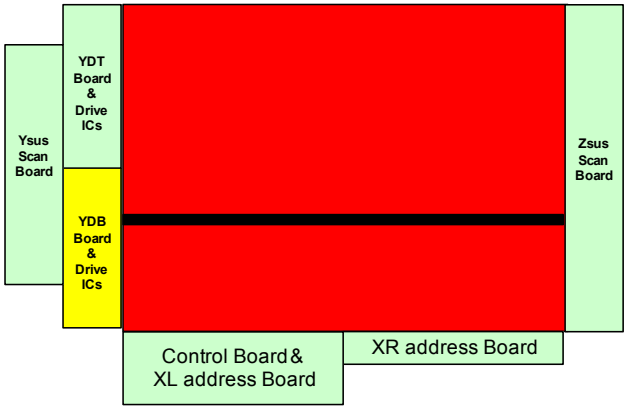
Single Horizontal Black Line (upper half of screen)

1st – Confirm secure connections between YDT and Panel Assembly.

Replace Panel Assembly if flex cable is damaged

2nd – Check the drive ICs on the YDT board for physical damge.

Replace YDT board if Ics are damaged.

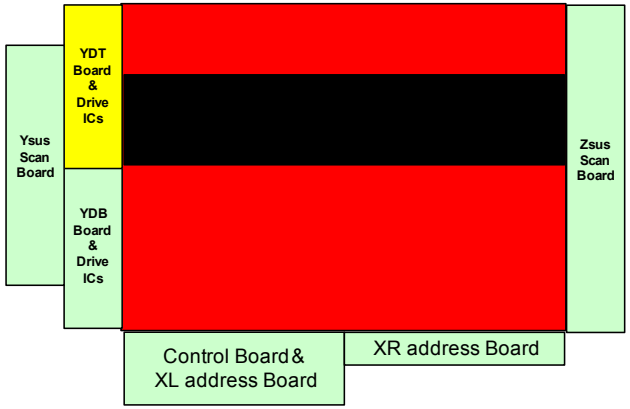


Single Horizontal Black Line (lower half of screen)

1st – Confirm secure connections between YDB and Panel Assembly

2nd – Check the drive ICs on the YDB board for physical damage.

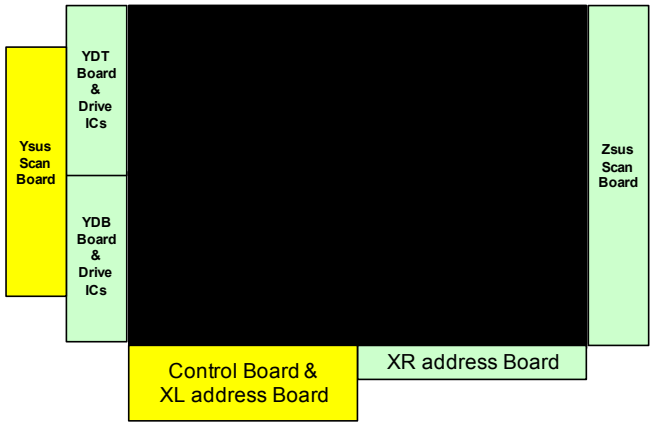
Replace YDB board if ICs are damaged.



Less-Than ½ Screen Horizontal Black Bar

1st – Replace the YDT or YDB board depending on where the horizontal black bar is located on the screen.

Note: One drive IC fails on the YDT or YDB board fails causing the successive drive ICs to not function. This symptom (a Black Bar less-than ½ the screen) can be located in the top or bottom half of the screen depending on if the failed IC is on the YDT or YDB board .



No Video – Black Raster

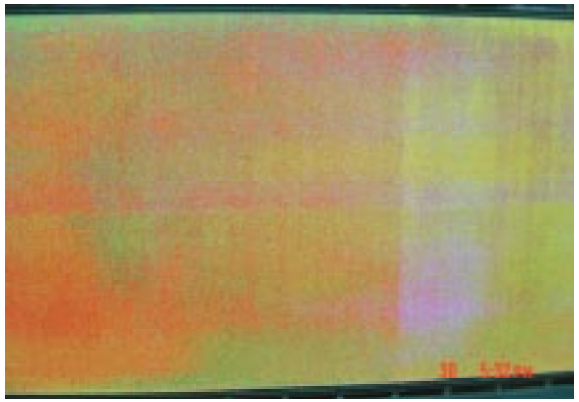
1st – Check Flex cable connections between Ysus & YDT/YDB boards.
Check VS and 5V power supplies to Ysus board.
Check for screen Priming

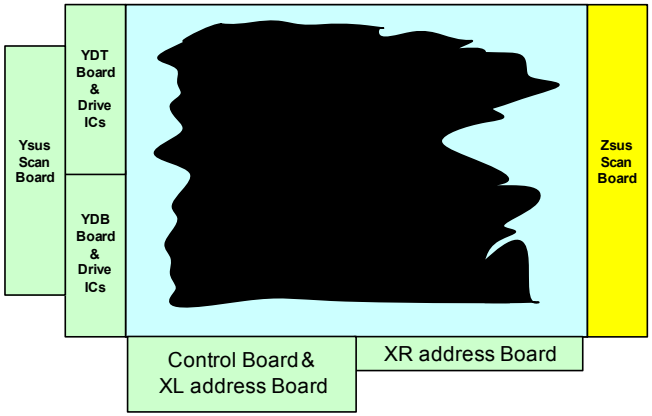
Replace G-board (Volatge(s) NG)
Replace Ysus (Priming NG)
Replace Control/XL Board (Priming OK)

2nd – Check connections between Ysus and Control boards are secure.
Connections & Voltages OK
A) Replace Ysus
B) Replace Control board

3rd – Check all voltages and connections to Zsus board.

Replace Zsus (connections & voltages OK)

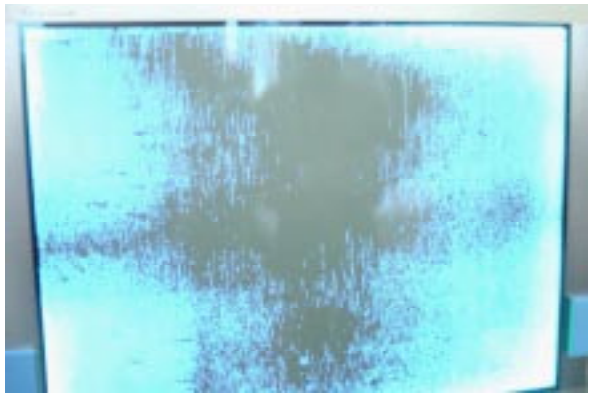




Pixelization & Black Areas In Video

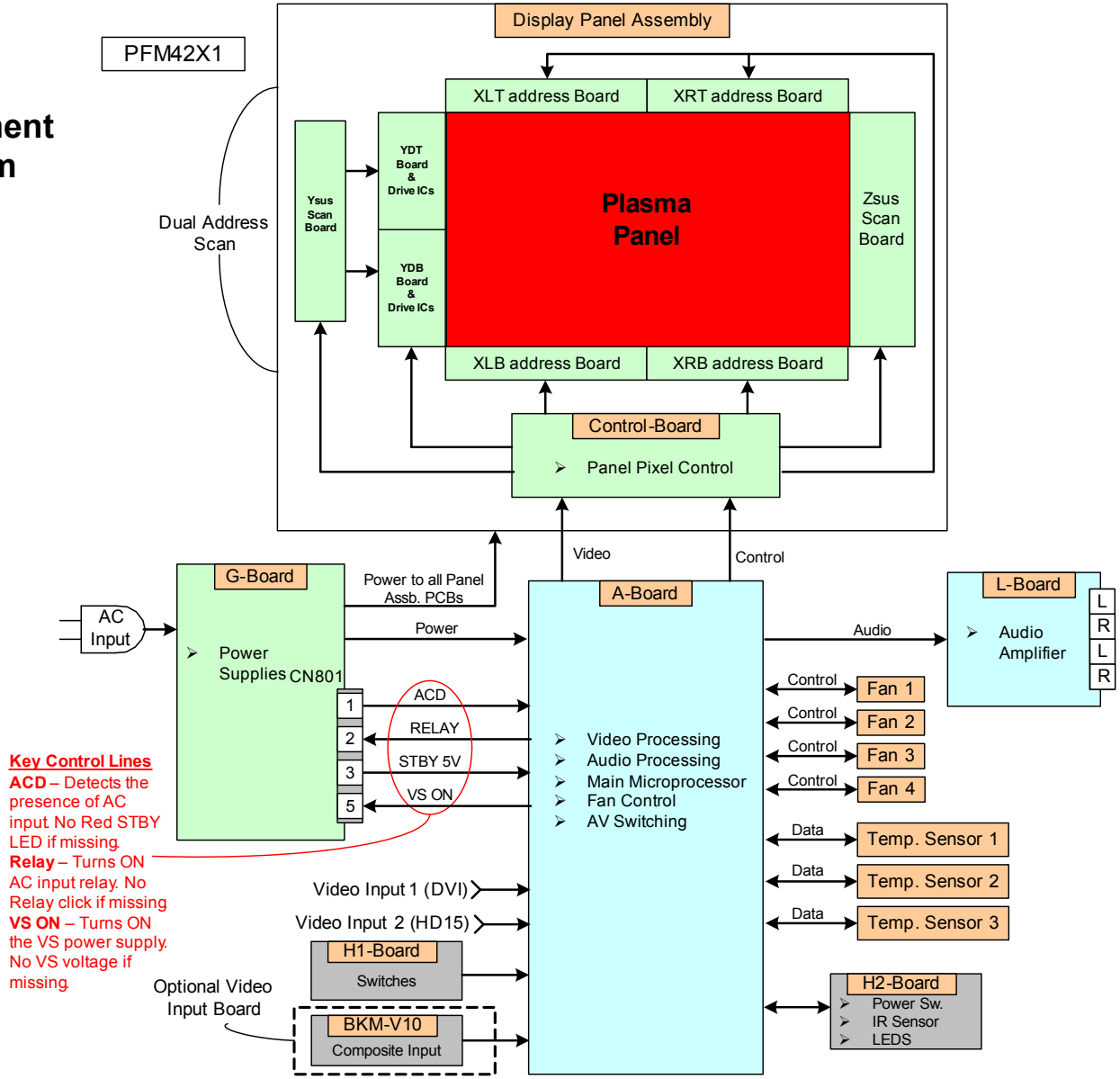
1st – Confirm connections and power supply voltages (VS & 5V) to Zsus board are secure.
Confirm Flex cable connections between Zsus board and Panel.

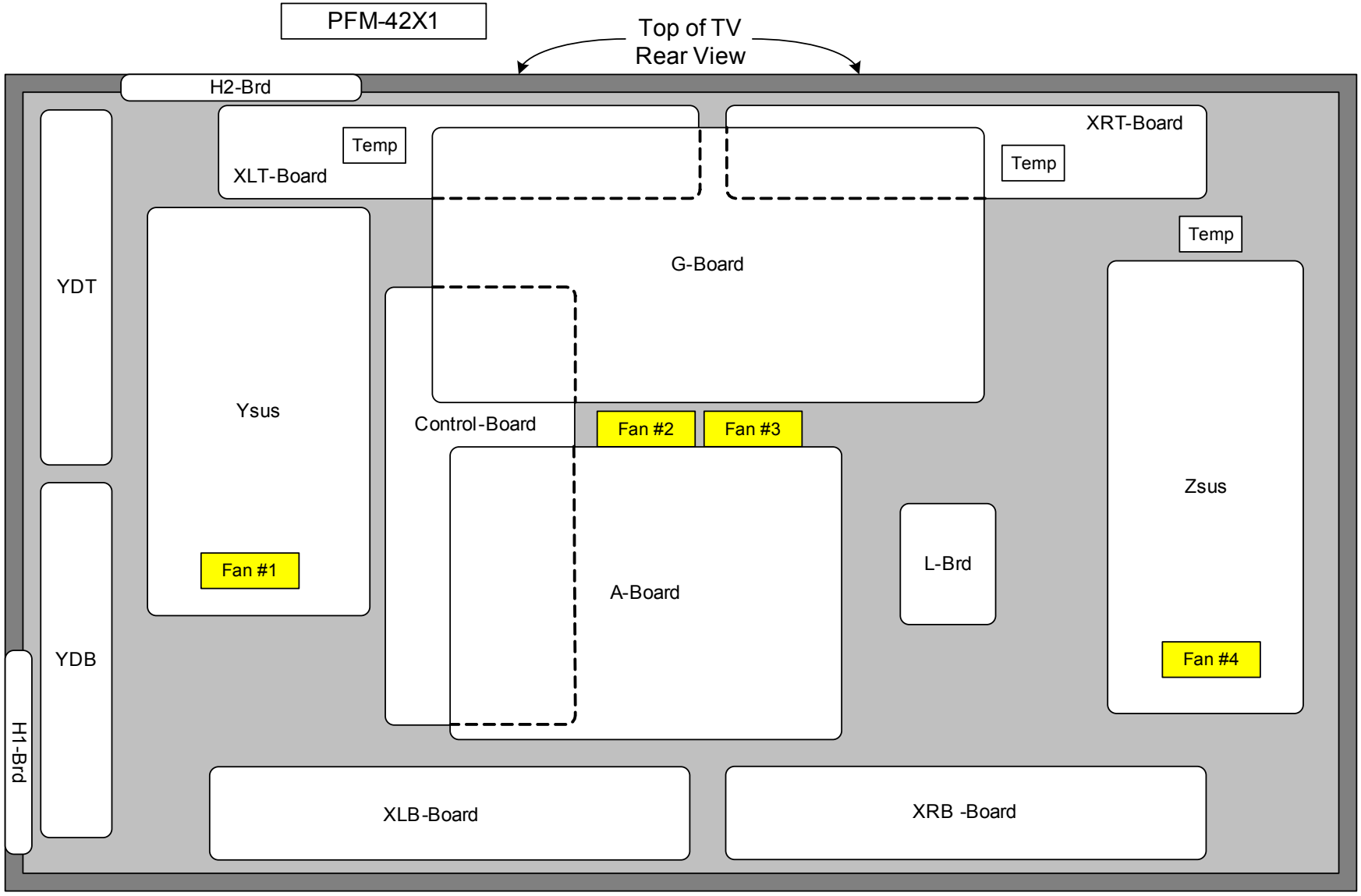
2nd –
A) Replace Zsus board (all connections and voltages OK)
B) Replace G-board (voltages NG)
C) Replace Plasma Panel (Flex cable NG)



PFM42X1 Triage & Troubleshooting

Overall Component Block Diagram





PCB Location Diagram

Board Reference	PFM42X1							
	Amber LED ON	Red LED ON No Green LED	No Red LED No Green LED	Stationary V or H Line Failure	No Video (Green LED) (No Primer)	No Video (Green LED) (Primer OK)	No Audio	Part #
A	●	▲				●	▲	1-761-970-11
G		●	●		▲		▲	1-761-969-11
Control Brd						▲		1-761-992-11
Ysus Brd					●			1-761-977-11
AC Input			●					Check Condition
Plasma Panel				*●				1-805-659-11
L							●	1-761-971-11

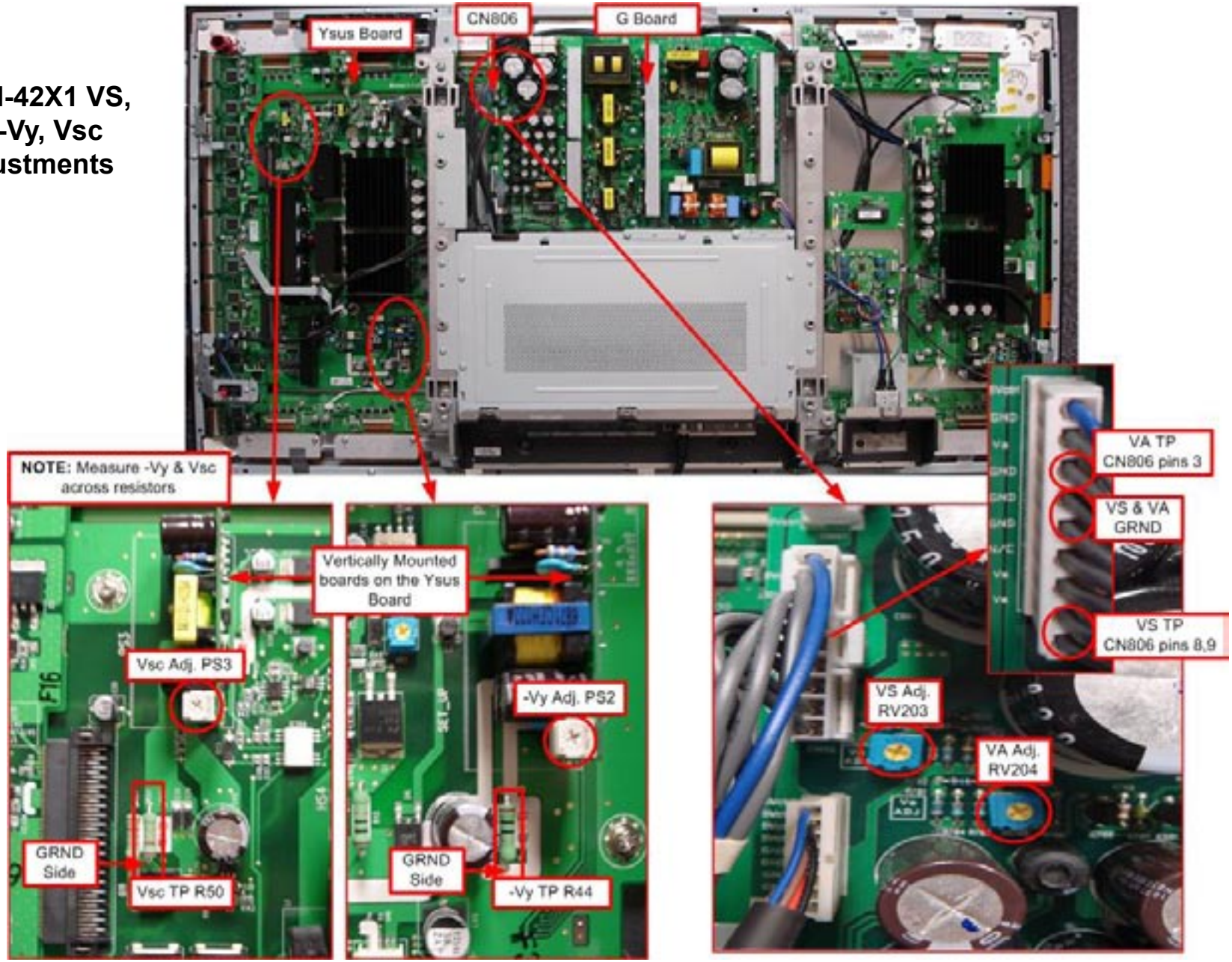
***NOTE:** Check the Panel Distortion diagrams on the following pages for further failure symptoms and component replacement recommendations.

● **Primary Defective Part**

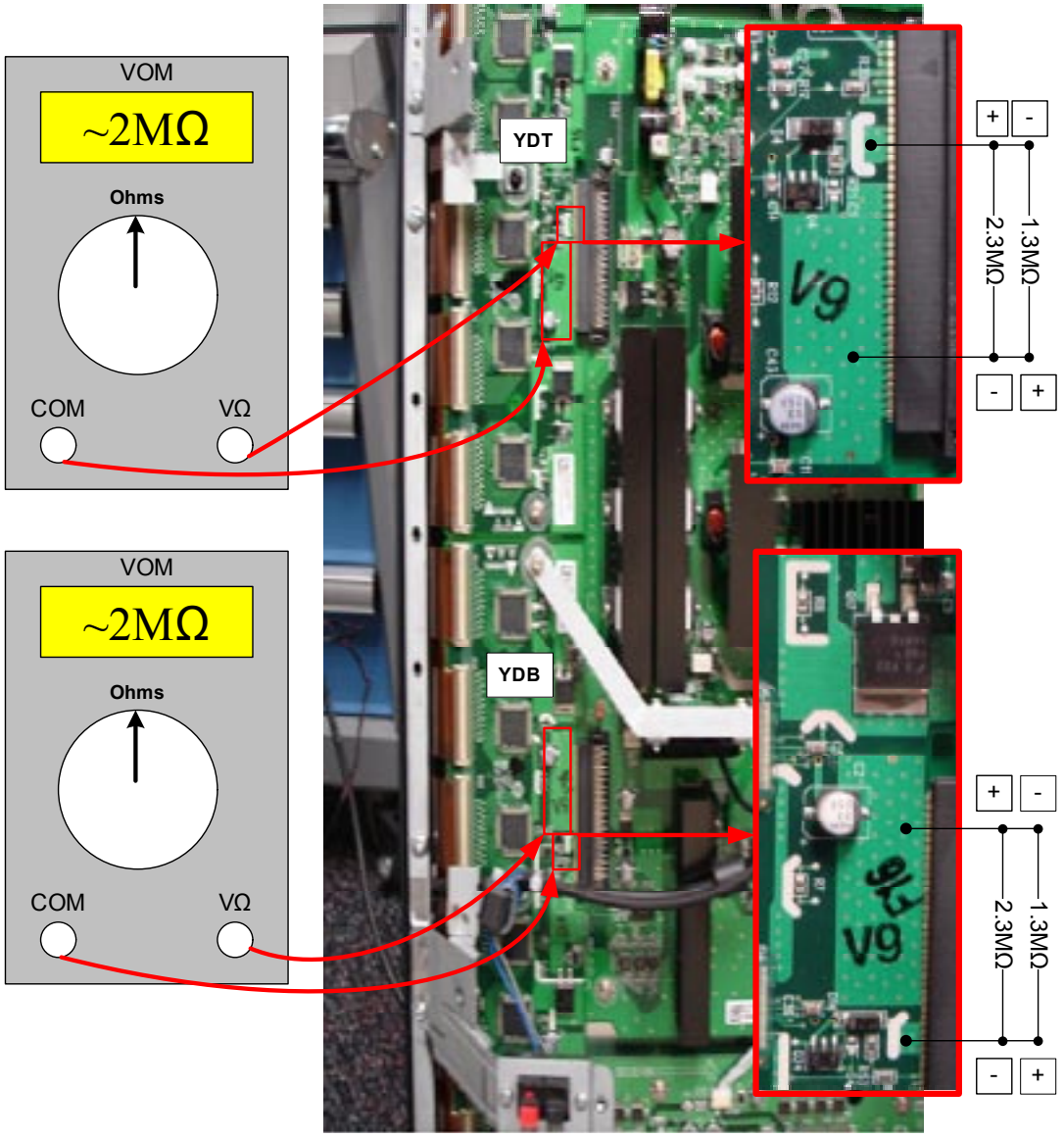
▲ **Secondary Defective Part**

Triage Chart

PFM-42X1 VS, VA, -Vy, Vsc Adjustments



PFM-42X1 YDT & YDB Resistance Check

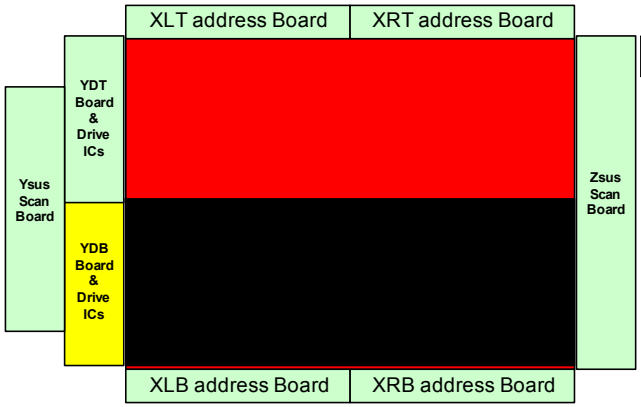


CAUTION: Remove power from unit before making the resistance measurement

NOTE: The resistance measurement between the com and VS voltage pads should read approximately ~2MΩ ohms with voltmeter leads oriented as shown in the diagram. If the voltmeter leads are reverse the reading will be ~1MΩ.

A typical faulty reading is 500 ohms. Replace the YDT or YDB if a low resistance is measured.

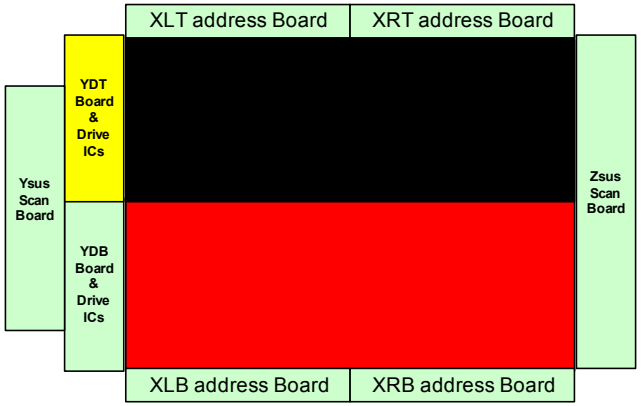
Panel Distortion Diagrams



No Video (Horizontal Black Bar) lower 1/2 of screen

1st – Confirm secure connections between Ysus and YDB boards. Check Flex Cable between YDB and Panel Assembly for physical damge.

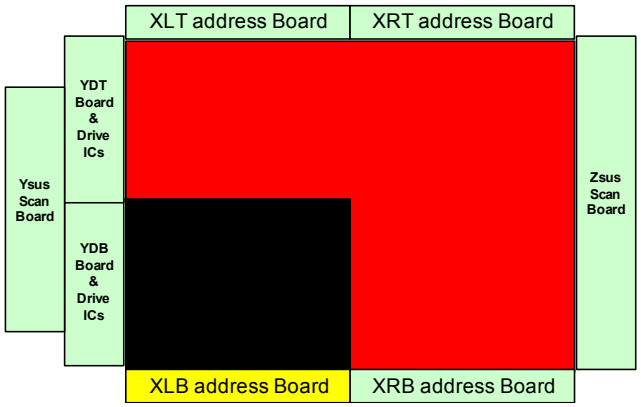
Replace YDB board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable NG)



No Video (Horizontal Black Bar) upper 1/2 of screen

1st – Confirm secure connections between Ysus and YDT boards. Check Flex Cable between YDT and Panel Assembly for physical damge.

Replace YDT board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable NG)

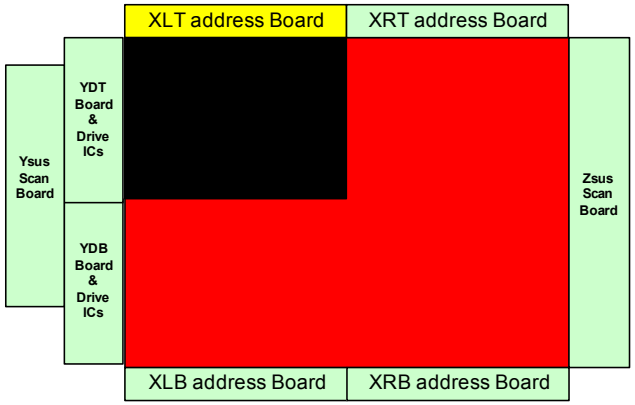


No Video (Vertical Black Box) 1/4 of screen

1st – Confirm secure connections between XLB Board and the Panel Assembly.

Replace XLB Board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable NG)

NOTE: This same type of symptom can occur due to a defective XRB board. The black box will occur in the lower right quadrant above the XRB board .

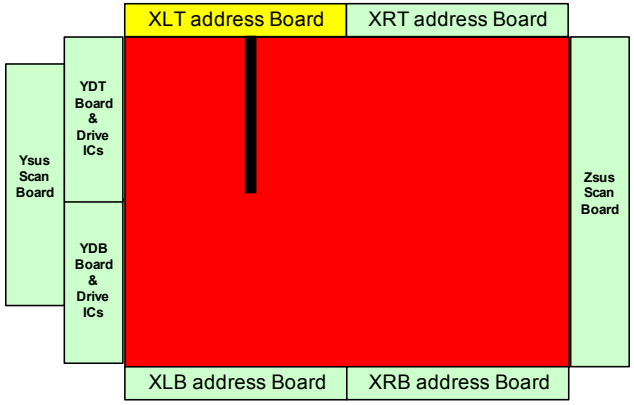


No Video (Vertical Black Box) 1/4 of screen

1st – Confirm secure connections between XLT Board and the Panel Assembly.

Replace XLT Board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable NG)

NOTE: This same type of symptom can occur due to a defective XRT board. The black box will occur in the upper right quadrant below the XRT board .



Single Vertical Black Line (right side of screen)

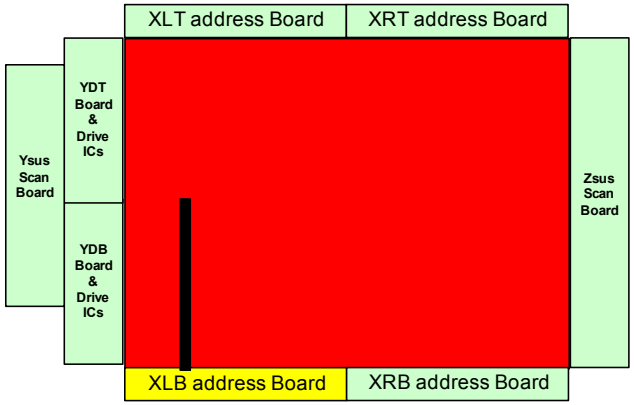
1st – Confirm secure connections between XLT and Panel Assembly.

2nd – Check the drive ICs on the flex cables between the XR and Panel for physical damage .

Replace Panel Assembly for defective Flex cable Ics and/or damaged Flex cable .

3rd – Replace XLT board (connections and ICs OK)

NOTE: This same type of symptom can occur due to a defective XRT board. The single black line will occur in the lower right quadrant below the XRT board .



Single Vertical Black Line (left side of screen)

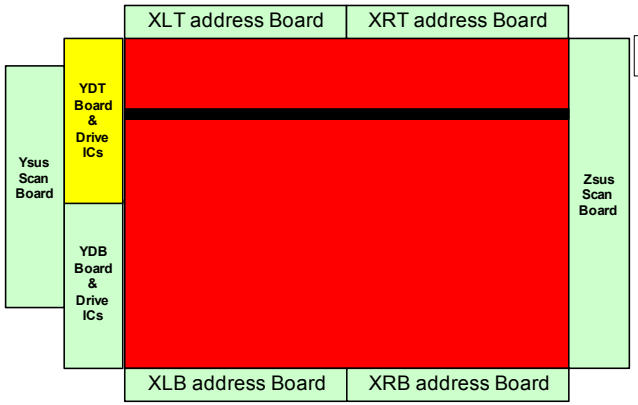
1st – Confirm secure connections between XLB Board and the Panel Assembly .

2nd – Check the drive ICs on the flex cables between the XLB board and Panel for physical damage.

Replace Panel Assembly for defective flex cable ICs

3rd – Replace XLB board (Flex cable and ICs OK)

NOTE: This same type of symptom can occur due to a defective XRB board. The single black line will occur in the lower right quadrant above the XRB board .



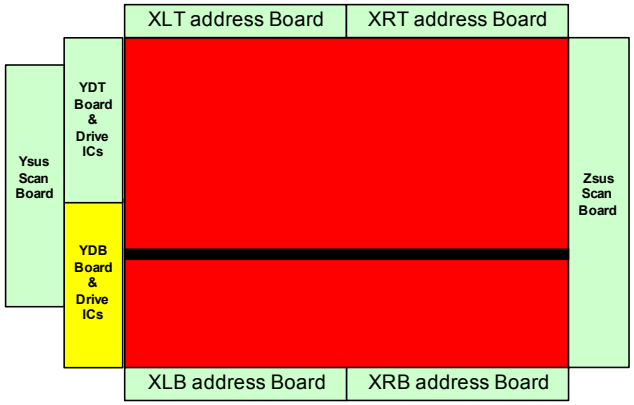
Single Horizontal Black Line (upper half of screen)

1st – Confirm secure connections between YDT and Panel Assembly.

Replace Panel Assembly if flex cable is damaged

2nd – Check the drive ICs on the YDT board for physical damge.

Replace YDT board if Ics are damaged.

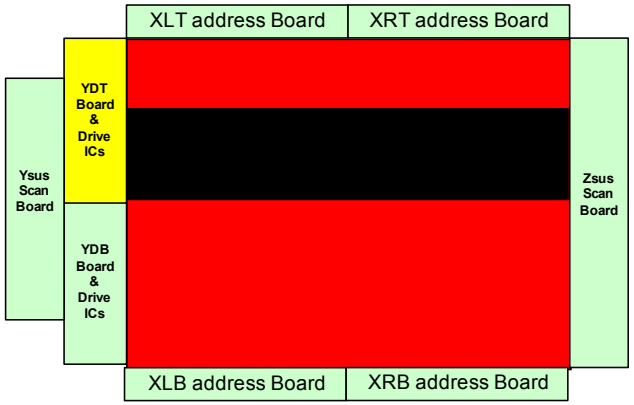


Single Horizontal Black Line (lower half of screen)

1st – Confirm secure connections between YDB and Panel Assembly

2nd – Check the drive ICs on the YDB board for physical damage.

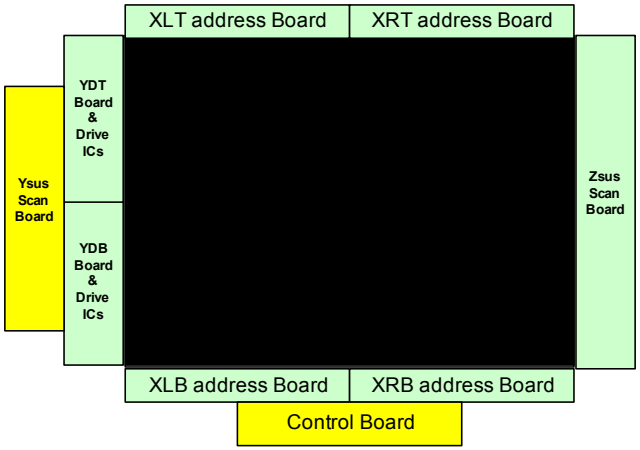
Replace YDB board if ICs are damaged.



Less-Than ½ Screen Horizontal Black Bar

1st – Replace the YDT or YDB board depending on where the horizontal black bar is located on the screen.

Note: One drive IC fails on the YDT or YDB board fails causing the successive drive ICs to not function. This symptom (a Black Bar less-than ½ the screen) can be located in the top or bottom half of the screen depending on if the failed IC is on the YDT or YDB board .



No Video – Black Raster

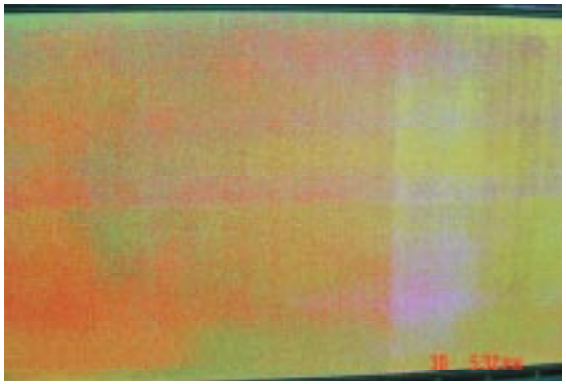
1st – Check Flex cable connections between Ysus & YDT/YDB boards. Check VS and 5V power supplies to Ysus board.
Check for screen Priming

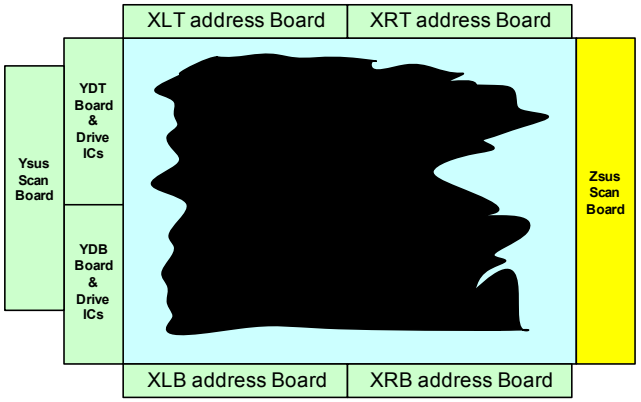
Replace G-board (Volatge(s) NG)
Replace Ysus (Priming NG)
Replace Control/XL Board (Priming OK)

2nd – Check connections between Ysus and Control boards are secure.
Connections & Voltages OK
A) Replace Ysus
B) Replace Control board

3rd – Check all voltages and connections to Zsus board.

Replace Zsus (connections & voltages OK)

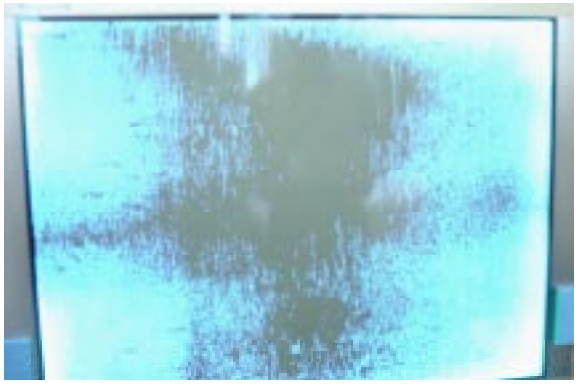




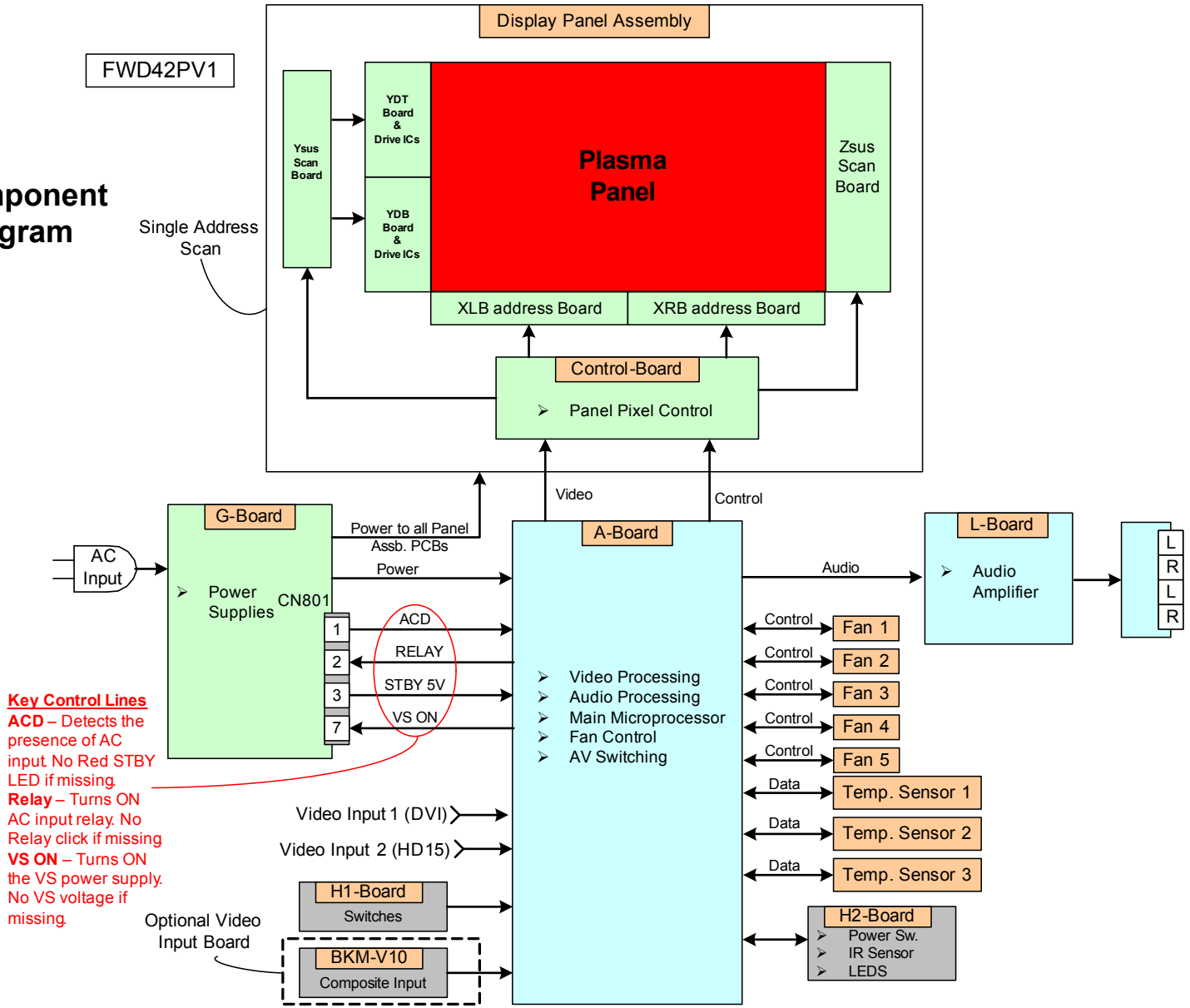
Pixelization & Black Areas In Video

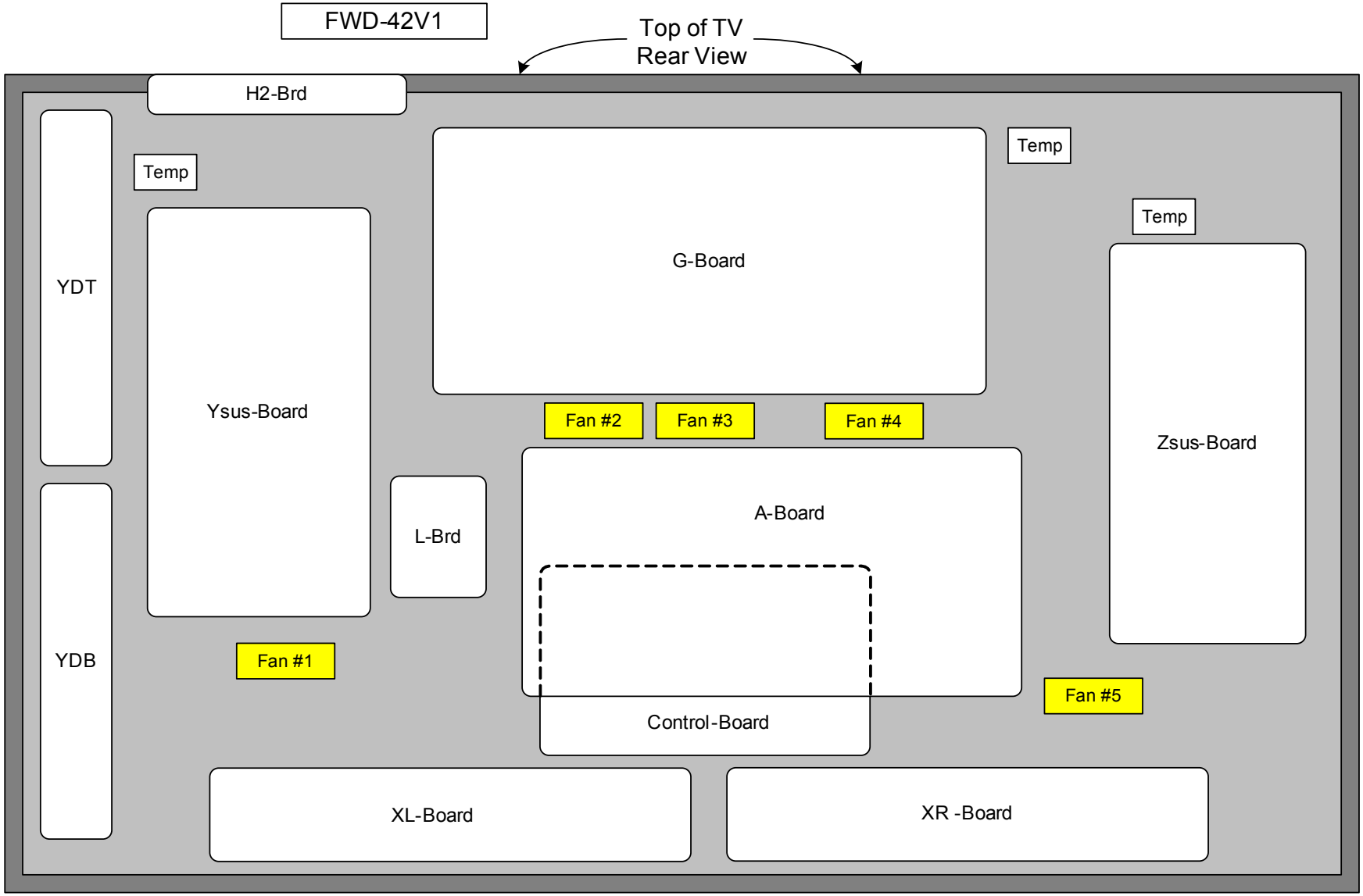
1st – Confirm connections and power supply voltages (VS & 5V) to Zsus board are secure.
Confirm Flex cable connections between Zsus board and Panel.

2nd –
A) Replace Zsus board (all connections and voltages OK)
B) Replace G-board (voltages NG)
C) Replace Plasma Panel (Flex cable NG)



Overall Component Block Diagram





PCB Location Diagram

Board Reference	FWD42PV1												
	2 Blinks	3 Blinks	4 Blinks	5 Blinks	Alternate Red & Green LED Flash	Amber LED ON	Stationary V or H Line Failure	Red LED ON No Green LED	No Red LED No Green LED	No Video (Green LED) (No Primer)	No Video (Green LED) (Primer OK)	No Audio	Part #
A	▲	▲	■*	▲	●	●		▲			●	▲	1-789-201-11
G				●	▲			●	●	▲		▲	1-789-203-11
Control Brd	●										▲		1-789-209-11
Ysus Brd										●			1-789-205-11
AC Input									▲				Check Condition
Fan #1		●											1-787-338-11
Fan #2		●											1-787-338-11
Fan #3		●											1-787-338-11
Fan #4		●											1-787-338-11
Fan #5		●											1-787-338-11
Plasma Panel							*●						1-805-839-11
Temp #1			▲										1-789-203-11
Temp #2			▲										1-789-203-11
Temp #3			▲										1-789-203-11
L				▲								●	1-789-200-11
Poor Ventilation			●										Check Condition
Problem	Panel	Fan	Temp	Voltage									

* Immediate Shutdown

***NOTE:** Check the Panel Distortion diagrams on the following pages for further failure symptoms and component replacement recommendations.

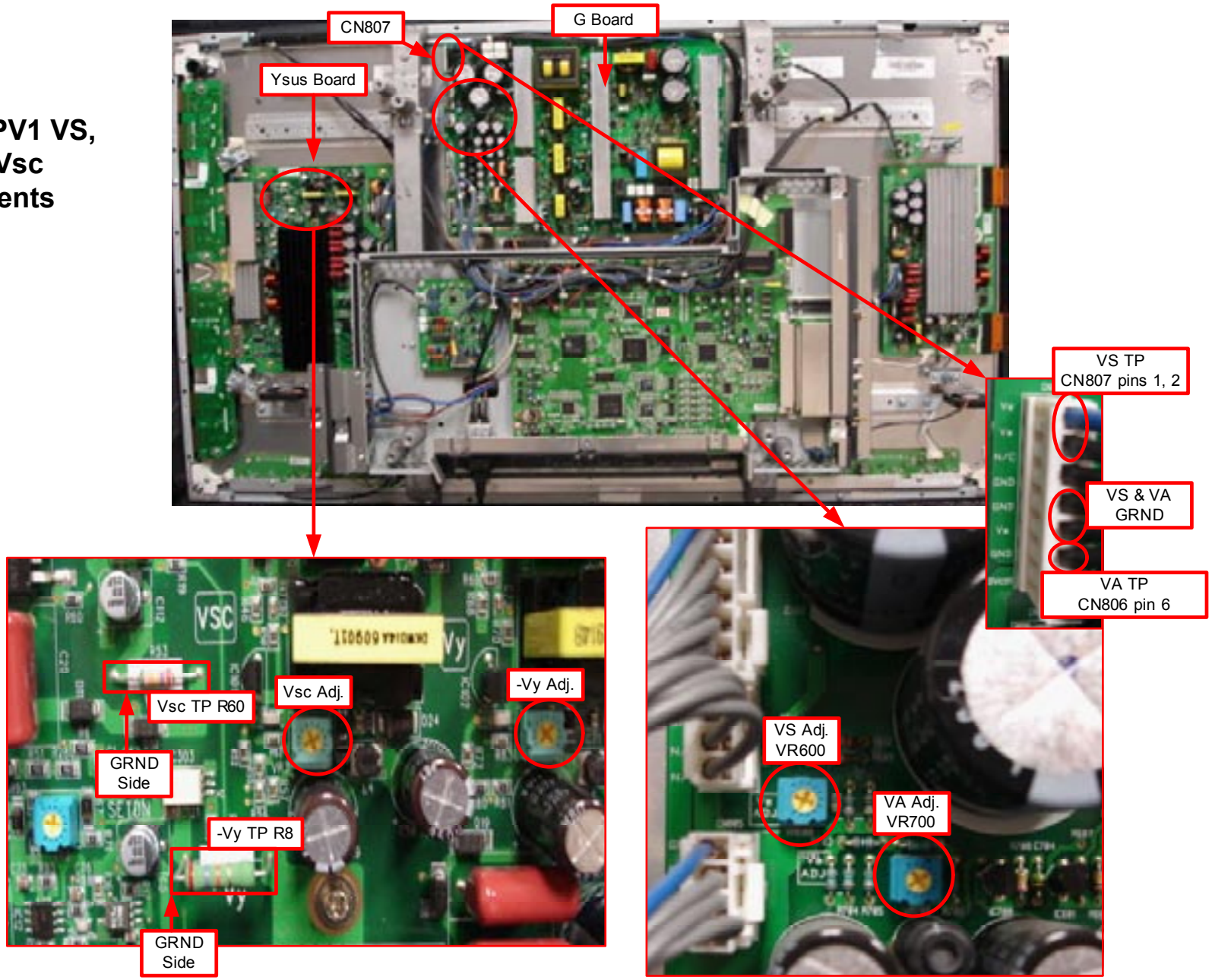
● **Primary Defective Part**

▲ **Secondary Defective Part**

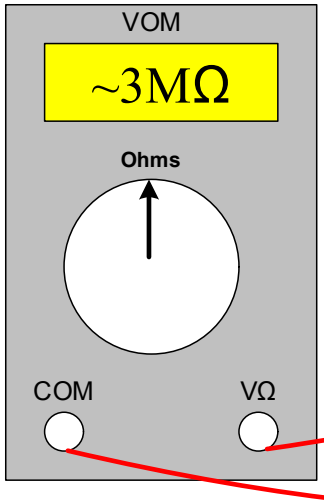
■ (Last Resort) Improbable Defective Part

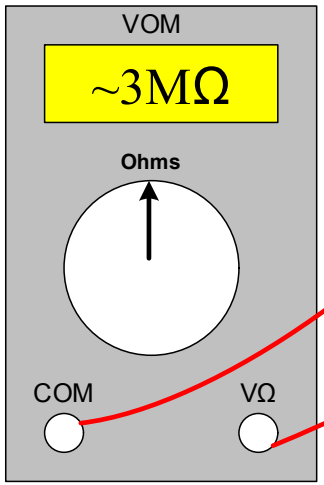
Triage Chart

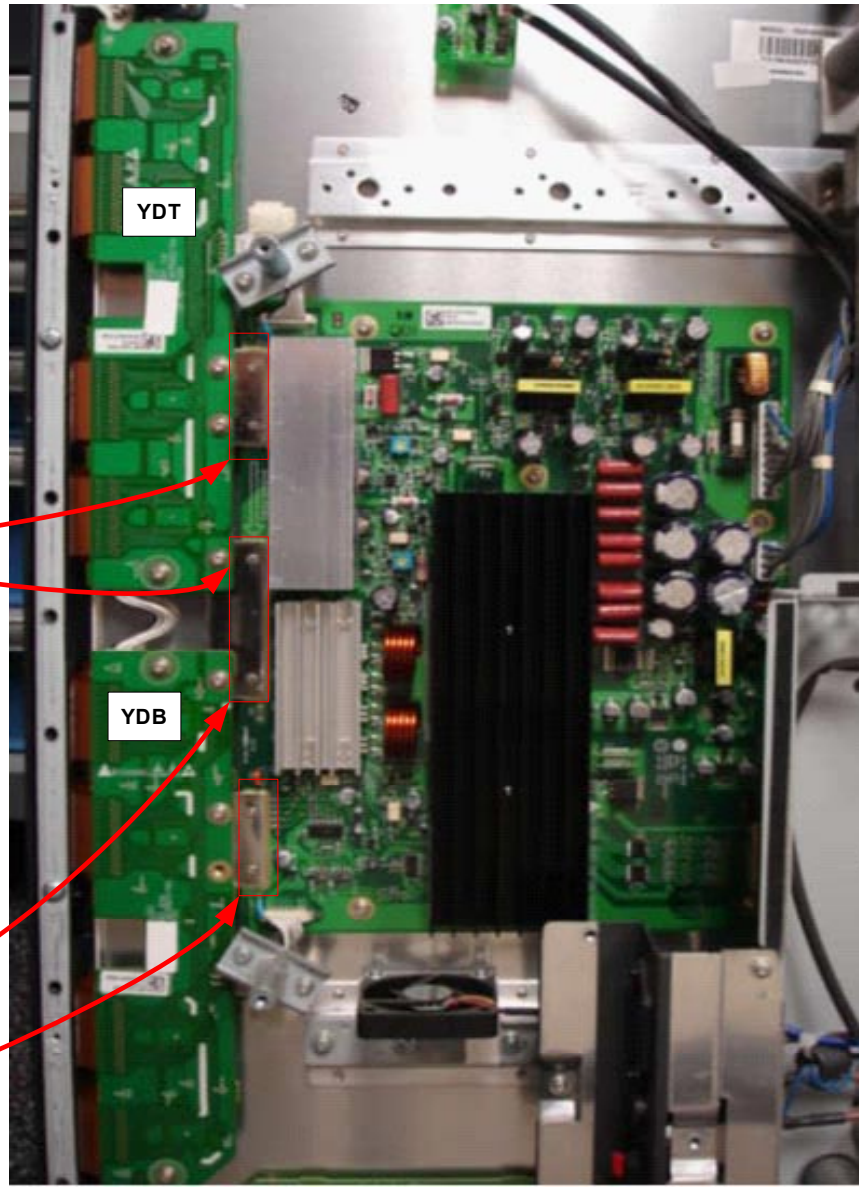
FWD-42PV1 VS, VA, -Vy, Vsc Adjustments



FWD-42PV1 YDT & YDB
Resistance Check





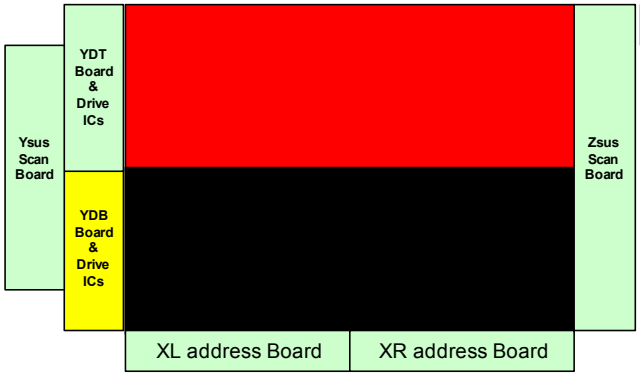


CAUTION: Remove power from unit before making the resistance measurement

NOTE: The resistance measurement between the com and VS voltage pads should read approximately 3M ohms with voltmeter leads oriented as shown in the diagram. If the voltmeter leads are reverse the reading will be infinite.

A typical faulty reading is 500 ohms. Replace the YDT or YDB if a low resistance is measured.

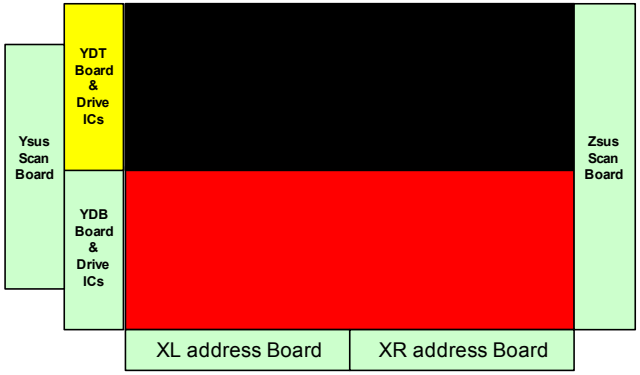
Panel Distortion Diagrams



No Video (Horizontal Black Bar) lower 1/2 of screen

1st – Confirm secure connections between Ysus and YDB boards. Check Flex Cable between YDB and Panel Assembly for physical damge.

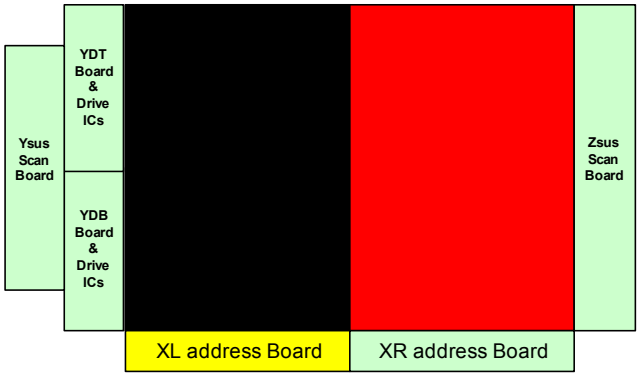
Replace YDB board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable NG)



No Video (Horizontal Black Bar) upper 1/2 of screen

1st – Confirm secure connections between Ysus and YDT boards. Check Flex Cable between YDT and Panel Assembly for physical damge.

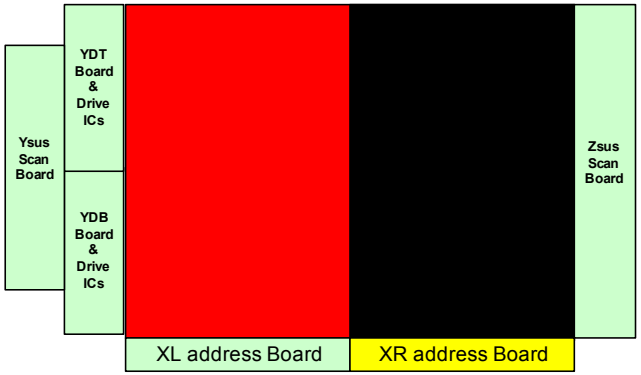
Replace YDT board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable NG)



No Video (Vertical Black Bar) 1/2 of screen

1st – Confirm secure connections between XL Board and the Panel Assembly.

Replace XL Board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable NG)



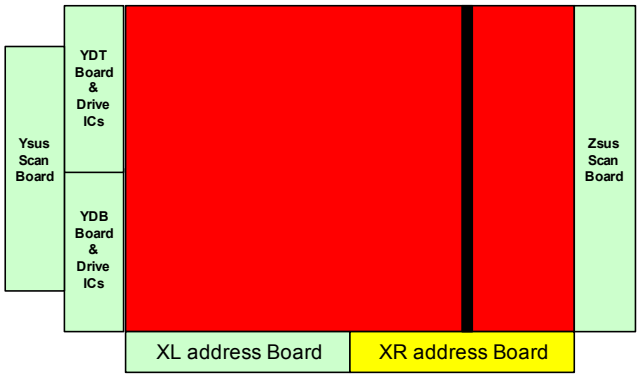
No Video (Vertical Black Bar) 1/2 of screen

1st – Confirm secure connections between XR, XL, and Control Boards.

2nd – Confirm 5V and VA voltages to XR board.

3rd – Replace boards in the following order.

A) Replace XR-Board
B) Replace Control Board



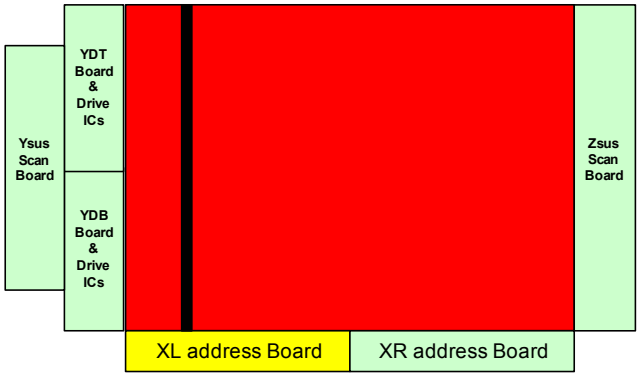
Single Vertical Black Line (right side of screen)

1st – Confirm secure connections between XR, XL, and Control Boards.

2nd – Check the drive ICs on the flex cables between the XR and Panel for physical damage.

Replace Panel Assembly for defective flex cable ICs

3rd – Replace XR board



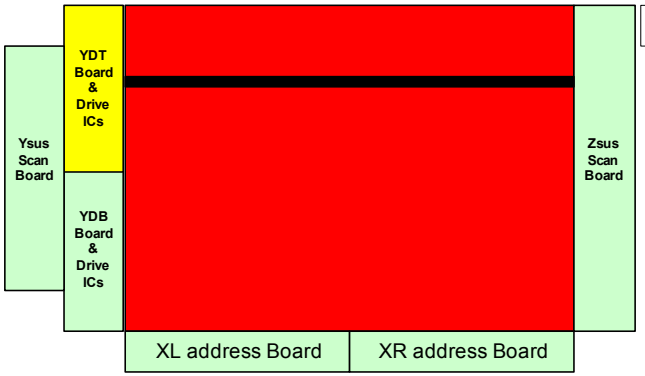
Single Vertical Black Line (left side of screen)

1st – Confirm secure connections between XL Board and the Panel Assembly.

2nd – Check the drive ICs on the flex cables between the XL board and Panel for physical damage.

Replace Panel Assembly for defective flex cable ICs

3rd – Replace XL board (Flex ICs OK)



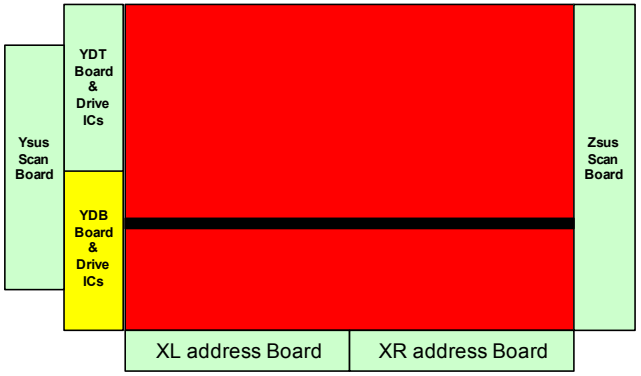
Single Horizontal Black Line (upper half of screen)

1st – Confirm secure connections between YDT and Panel Assembly.

Replace Panel Assembly if flex cable is damaged

2nd – Check the drive ICs on the YDT board for physical damge.

Replace YDT board if Ics are damaged.



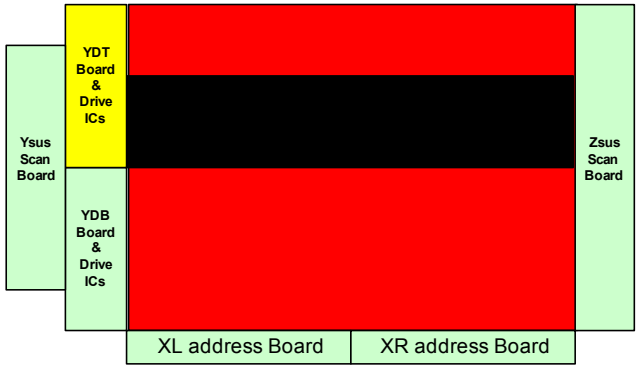
Single Horizontal Black Line (lower half of screen)

1st – Confirm secure connections between YDB and Panel Assembly

Replace Panel Assembly if flex cable is damaged

2nd – Check the drive ICs on the YDB board for physical damage.

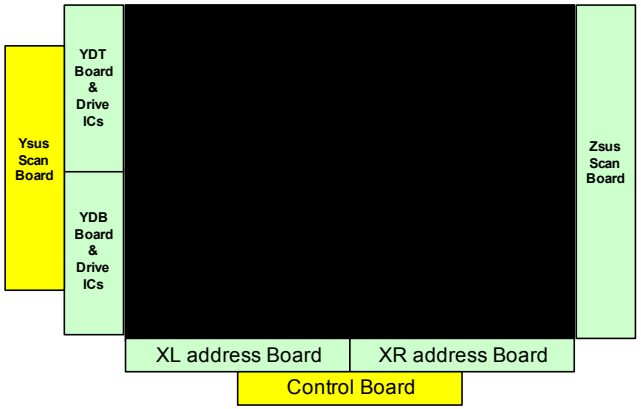
Replace YDB board if ICs are damaged.



Less-Than ½ Screen Horizontal Black Bar

1st – Replace the YDT or YDB board depending on where the horizontal black bar is located on the screen.

Note: One drive IC fails on the YDT or YDB board fails causing the successive drive ICs to not function. This symptom (a Black Bar less-than ½ the screen) can be located in the top or bottom half of the screen depending on if the failed IC is on the YDT or YDB board .



No Video – Black Raster

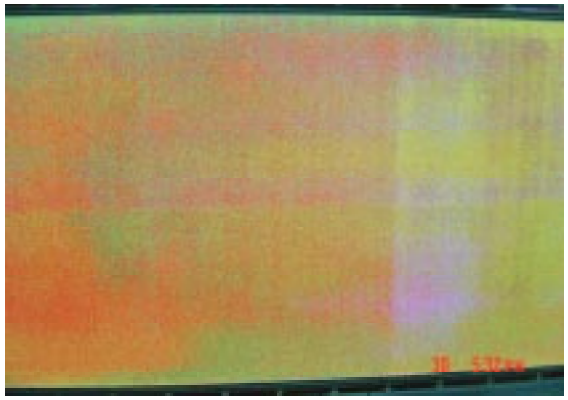
1st – Check Flex cable connections between Ysus & YDT/YDB boards.
Check VS and 5V power supplies to Ysus board.
Check for screen Priming

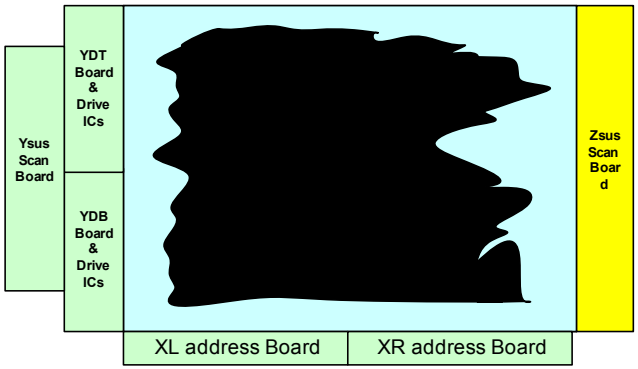
Replace G-board (Volatge(s) NG)
Replace Ysus (Priming NG)
Replace Control Board (Priming OK)

2nd – Check connections between Ysus and Control boards are secure.
Connections & Voltages OK
A) Replace Ysus
B) Replace Control board

3rd – Check all voltages and connections to Zsus board.

Replace Zsus (connections & voltages OK)

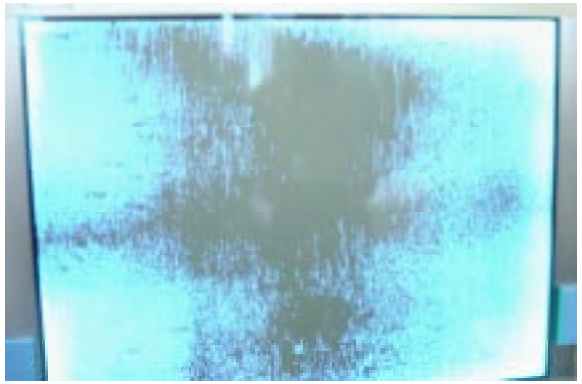




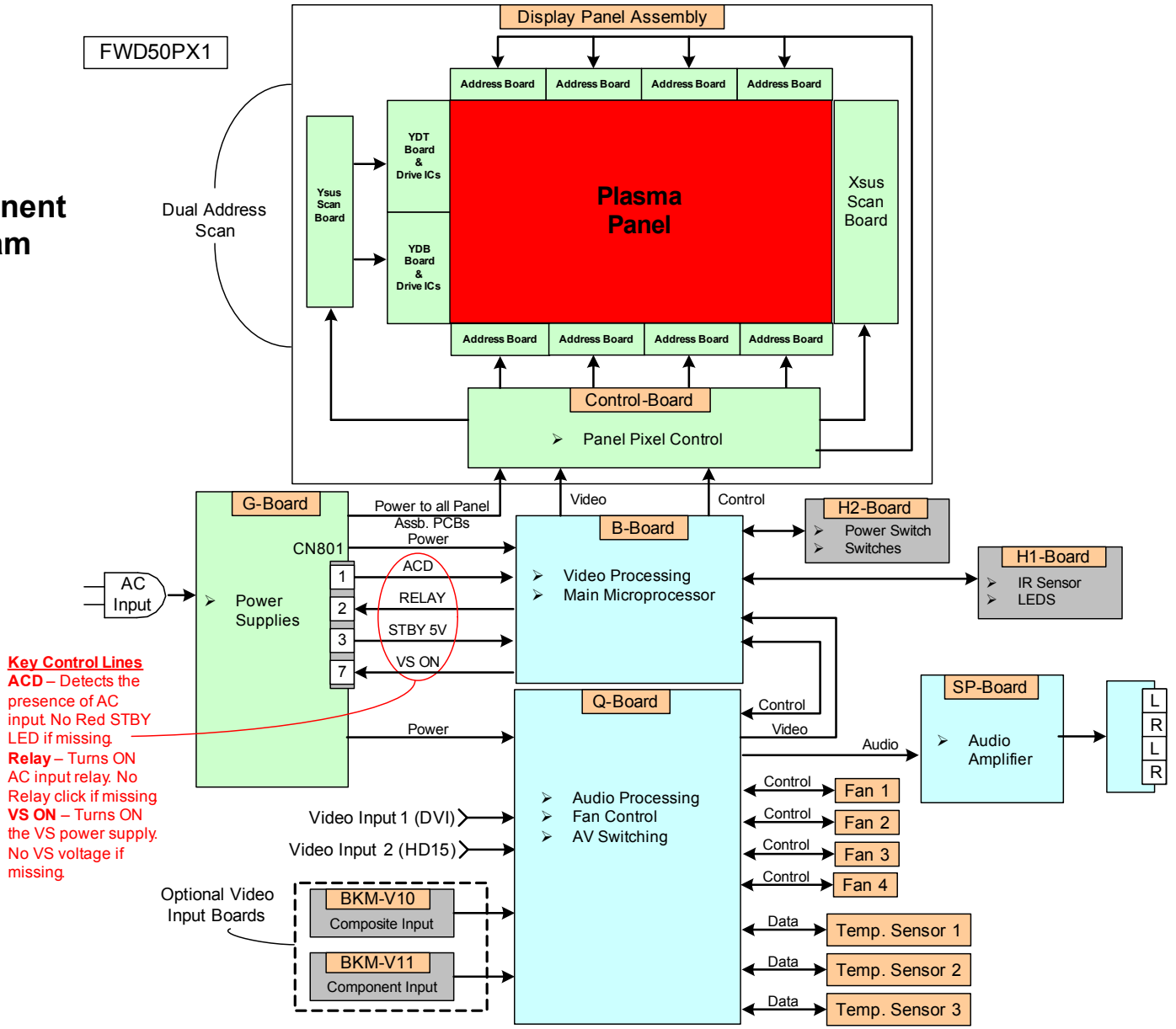
Pixelization & Black Areas In Video

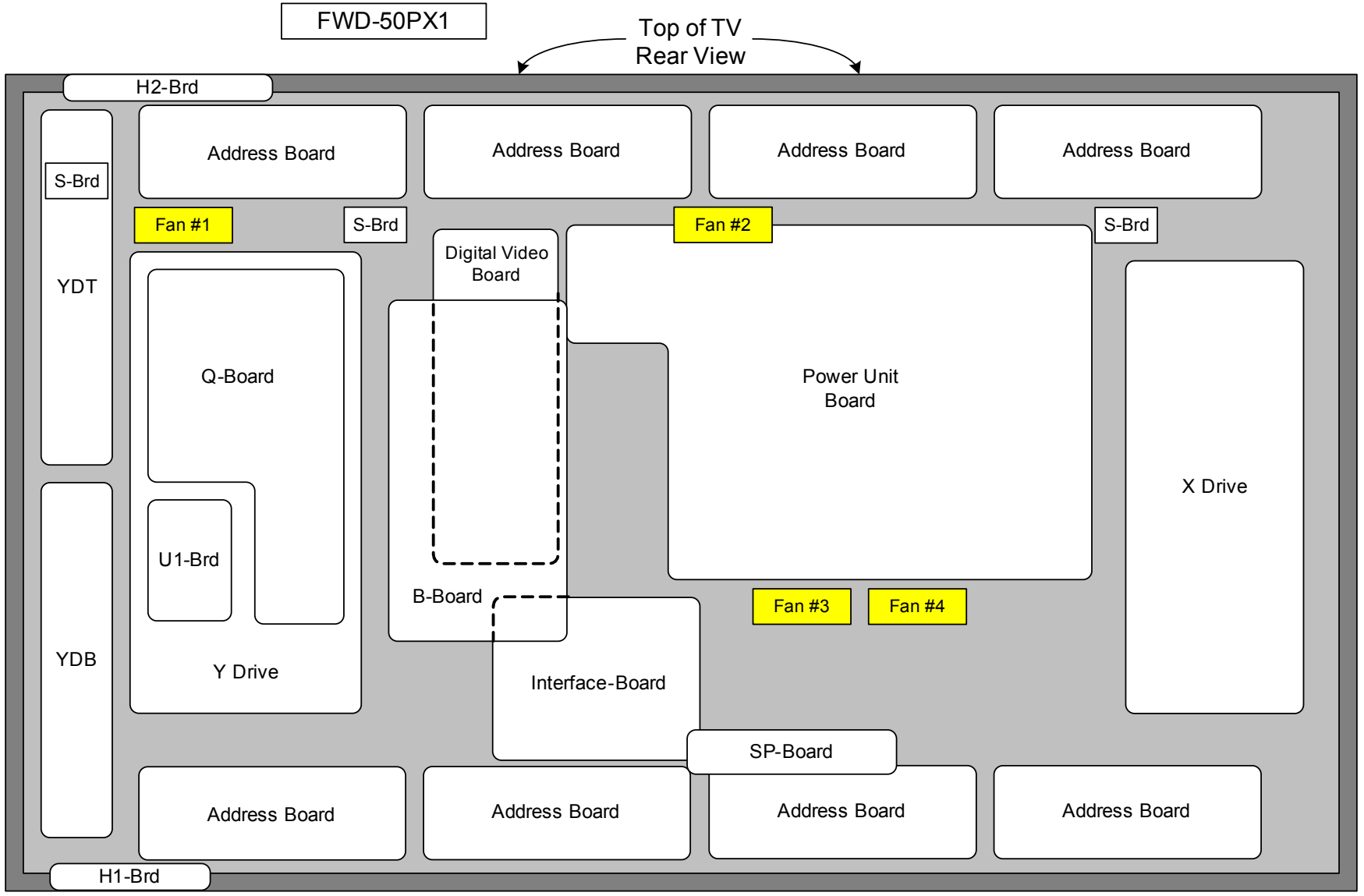
1st – Confirm connections and power supply voltages (VS & 5V) to Zsus board are secure.
Confirm Flex cable connections between Zsus board and Panel.

2nd –
A) Replace Zsus board (all connections and voltages OK)
B) Replace G-board (voltages NG)
C) Replace Plasma Panel (Flex cable NG)



Overall Component Block Diagram





PCB Location Diagram

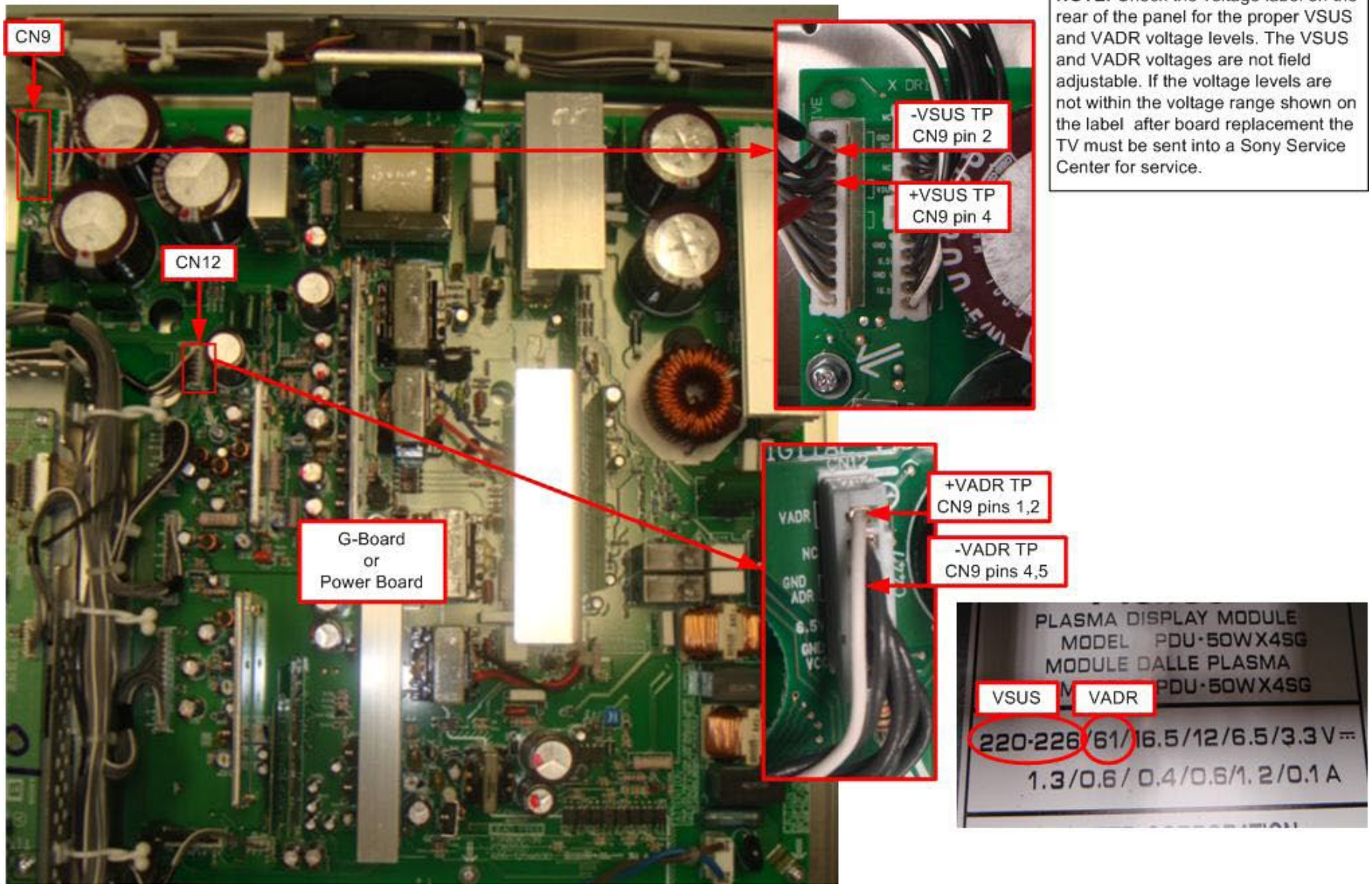
Board Reference	FWD50PX1													
	2 Blinks	3 Blinks	4 Blinks	5 Blinks	6 Blinks	Alternate Red & Green LED Flash	Amber LED ON	Red LED ON No Green LED	Stationary V or H Line Failure	No Red LED No Green LED	No Video (Green LED) (No Primer)	No Video (Green LED) (Primer OK)	No Audio	Part #
B	▲	▲		■	▲	●	●	▲		■		●	▲	A-1070-525-A
Q			▲	▲									▲	A-1062-627-A
G					●	▲		●		●	▲			1-468-872-11
Interface Brd	■											▲		9-885-061-46
Digital Video Brd	●											▲		9-885-061-45
Ysus Brd											●			9-885-061-44
AC Input										▲				Check Condition
Fan #1			●											1-787-088-11
Fan #2			●											1-787-088-11
Fan #3			●											1-787-243-11
Fan #4			●											1-787-243-11
Plasma Panel									*●			■		1-805-676-11
Temp. #1		*▲												A-1068-935-A
Temp. #2		*▲												A-1068-935-A
Temp. #3		*▲												A-1068-935-A
L													●	A-1068-935-A
Poor Ventilation		●												Check Condition
Problem	Panel	Temp	Fan	3.3V 5V	6V									

*Immediate Shutdown

***NOTE:** Check the Panel Distortion diagrams on the following pages for further failure symptoms and component replacement recommendations.

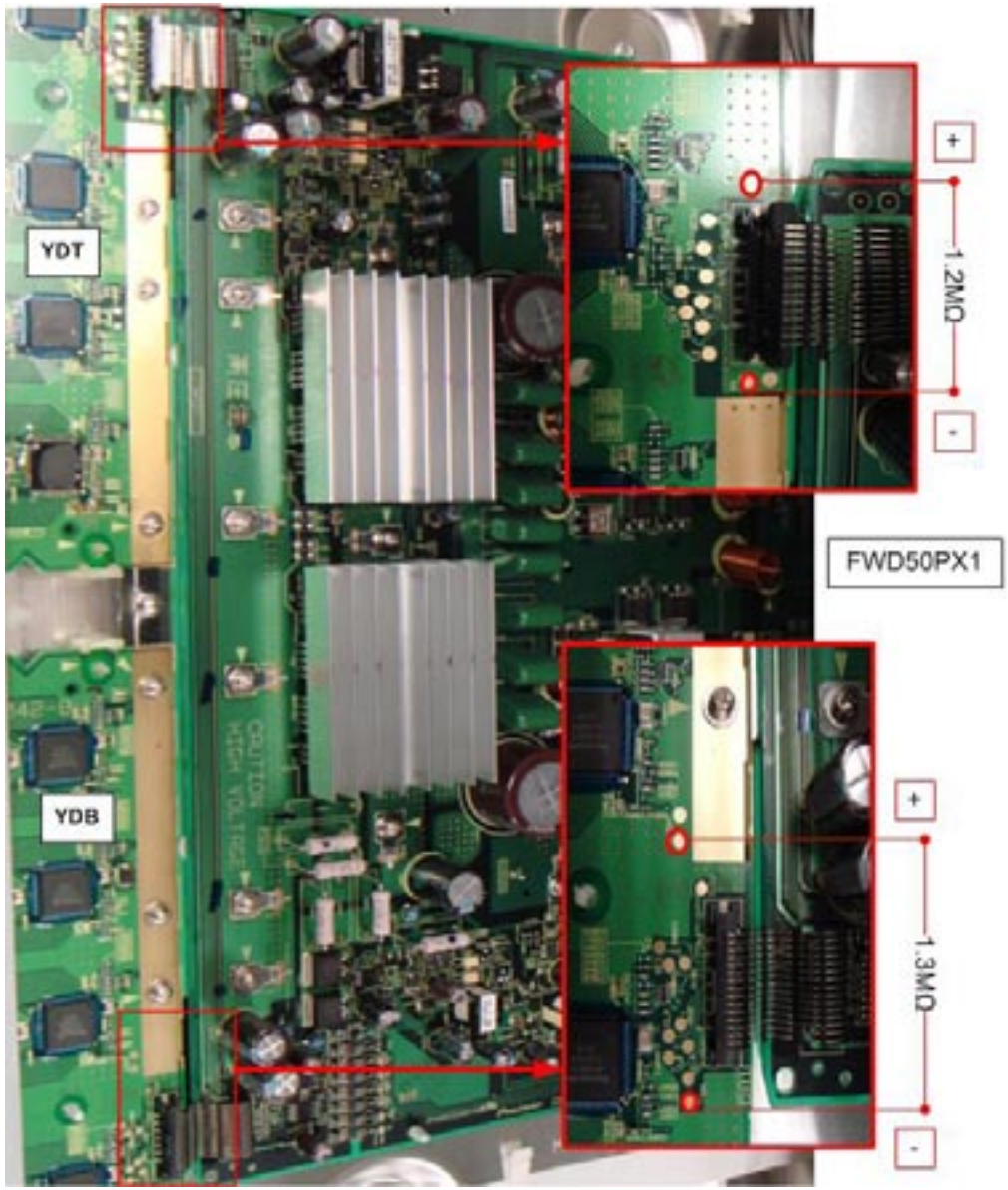
● **Primary Defective Part**
▲ **Secondary Defective Part**
■ (Last Resort) Improbable Defective Part

Triage Chart



NOTE: Check the voltage label on the rear of the panel for the proper VSUS and VADR voltage levels. The VSUS and VADR voltages are not field adjustable. If the voltage levels are not within the voltage range shown on the label after board replacement the TV must be sent into a Sony Service Center for service.

FWD-50PX1 Vsus & VADR Check



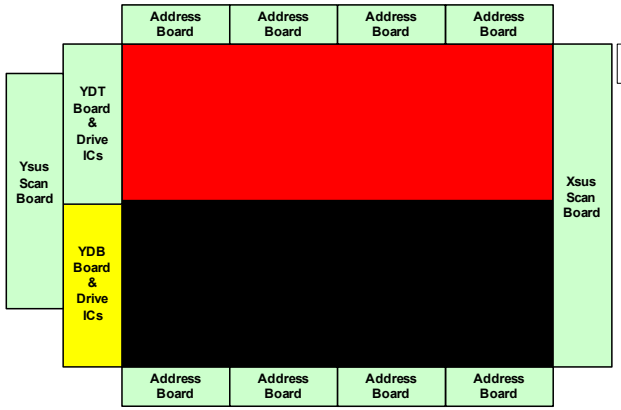
CAUTION: Remove power from unit before making the resistance measurement

NOTE: The resistance measurement between the com and VS voltage pads should read approximately ~1.2MΩ ohms with voltmeter leads oriented as shown in the diagram.

A typical faulty reading is 44 ohms. Replace the YDT or YDB if a low resistance is measured.

FWD-50PX1 YDT & YDB Resistance Check

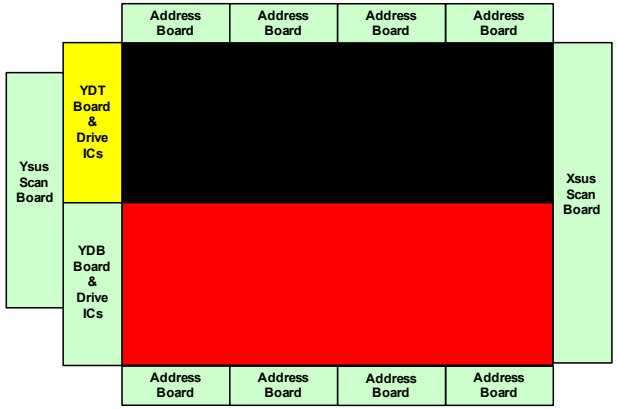
Panel Distortion Diagrams



No Video (Horizontal Black Bar) lower 1/2 of screen

1st – Confirm secure connections between Ysus and YDB boards. Check Flex Cable between YDB and Panel Assembly for physical damge.

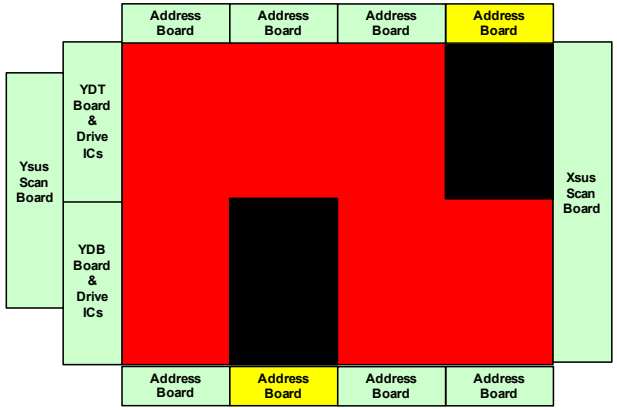
Replace YDB board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable NG)



No Video (Horizontal Black Bar) upper 1/2 of screen

1st – Confirm secure connections between Ysus and YDT boards. Check Flex Cable between YDT and Panel Assembly for physical damge.

Replace YDT board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable NG)

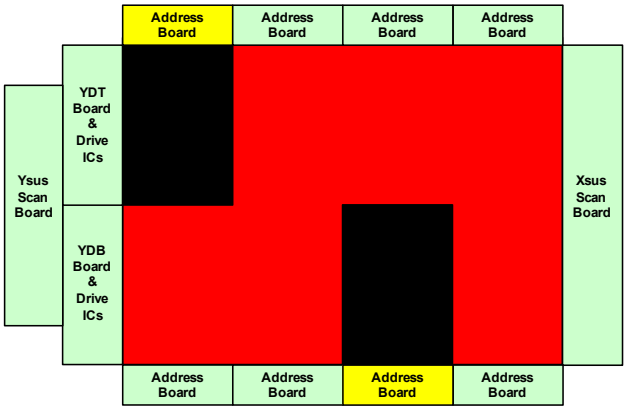


No Video (Vertical Black Box) 1/8 of screen

1st – Confirm secure connections between associated address board and the Panel Assembly . Check driver ICs for physical damage.

Replace Address Board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable or Driver ICs NG)

NOTE: This same type of symptom can occur due to any defective address boards . The black box will occur in the lower or upper part of the screen below or above a particular address board .

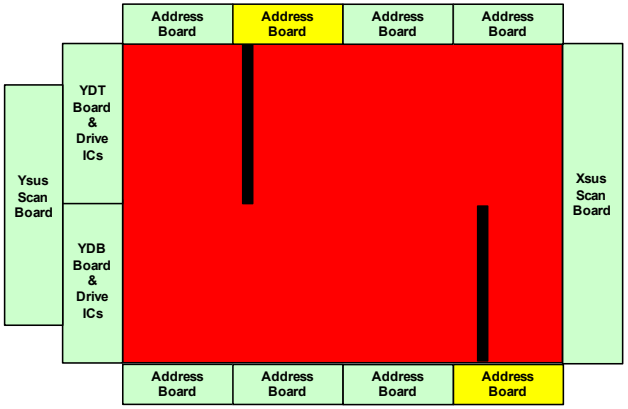


No Video (Vertical Black Box) 1/8 of screen

1st – Confirm secure connections between associated address board and the Panel Assembly . Check driver ICs for physical damage .

Replace Address Board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable or Driver ICs NG)

NOTE: This same type of symptom can occur due to any defective address boards . The black box will occur in the lower or upper part of the screen below or above a particular address board .



Single Vertical Black Line

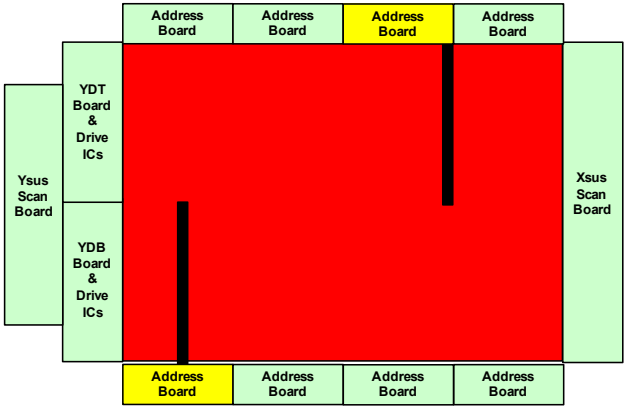
1st – Confirm secure connections between Address board and Panel Assembly.

2nd – Check the drive ICs on the flex cables between the Address and Panel for physical damage .

Replace Panel Assembly for defective Flex cable ICs and/or damaged Flex cable .

3rd – Replace Address board (connections and ICs OK)

NOTE: This same type of symptom can occur due to any defective address boards . The black box will occur in the lower or upper part of the screen below or above a particular address board .



Single Vertical Black Line

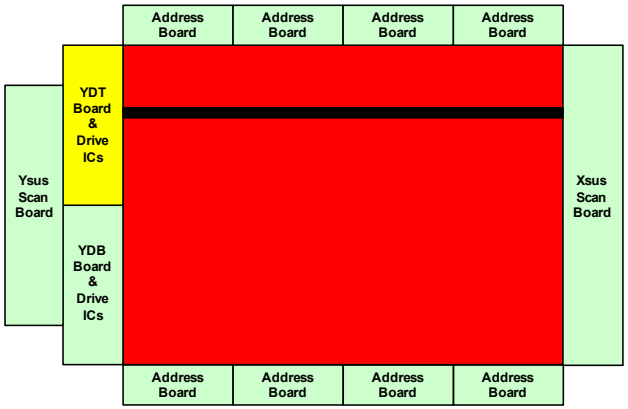
1st – Confirm secure connections between Address Board and the Panel Assembly .

2nd – Check the drive ICs on the flex cables between the Address board and Panel for physical damage .

Replace Panel Assembly for defective flex cable ICs

3rd – Replace Address board (Flex cable and ICs OK)

NOTE: This same type of symptom can occur due to any defective address boards . The black box will occur in the lower or upper part of the screen below or above a particular address board .



Single Horizontal Black Line (upper half of screen)

1st – Confirm secure connections between YDT and Panel Assembly.

Replace Panel Assembly if flex cable is damaged

2nd – Check the drive ICs on the YDT board for physical damge.

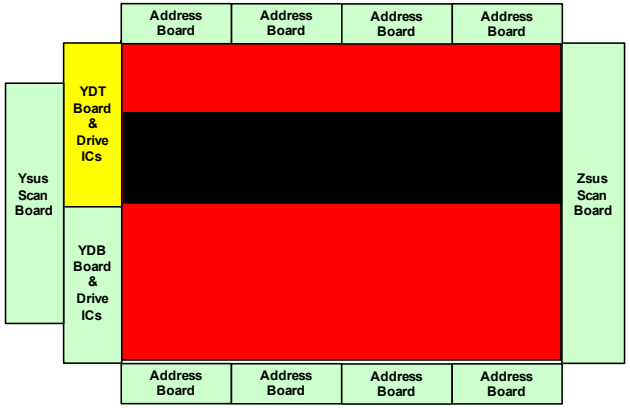
Replace YDT board if Ics are damaged.

Single Horizontal Black Line (lower half of screen)

1st – Confirm secure connections between YDB and Panel Assembly

2nd – Check the drive ICs on the YDB board for physical damage.

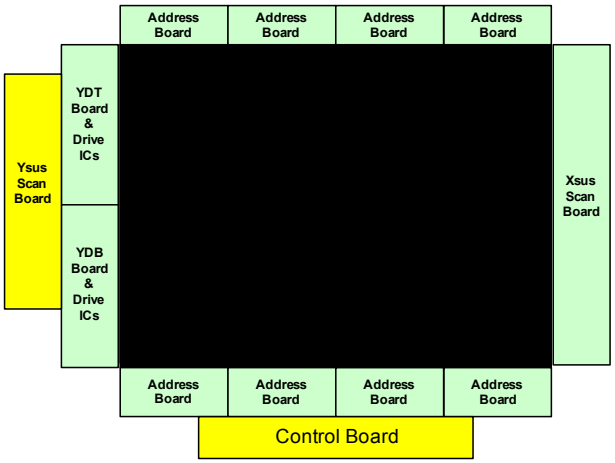
Replace YDB board if ICs are damaged.



Less-Than ½ Screen Horizontal Black Bar

1st – Replace the YDT or YDB board depending on where the horizontal black bar is located on the screen.

Note: One drive IC fails on the YDT or YDB board fails causing the successive drive ICs to not function. This symptom (a Black Bar less-than ½ the screen) can be located in the top or bottom half of the screen depending on if the failed IC is on the YDT or YDB board .



No Video – Black Raster

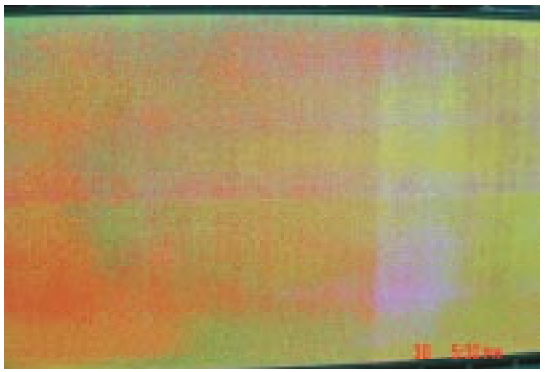
1st – Check Flex cable connections between Ysus & YDT/YDB boards.
Check VS and 5V power supplies to Ysus board.
Check for screen Priming

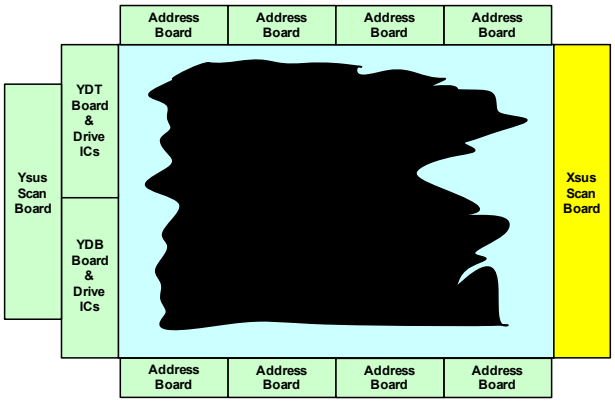
Replace G-board (Volatge(s) NG)
Replace Ysus (Priming NG)
Replace Control/XL Board (Priming OK)

2nd – Check connections between Ysus and Control boards are secure.
Connections & Voltages OK
A) Replace Ysus
B) Replace Control board

3rd – Check all voltages and connections to Xsus board.

Replace Xsus (connections & voltages OK)

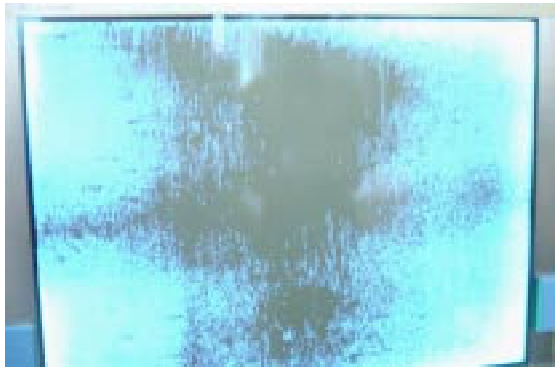




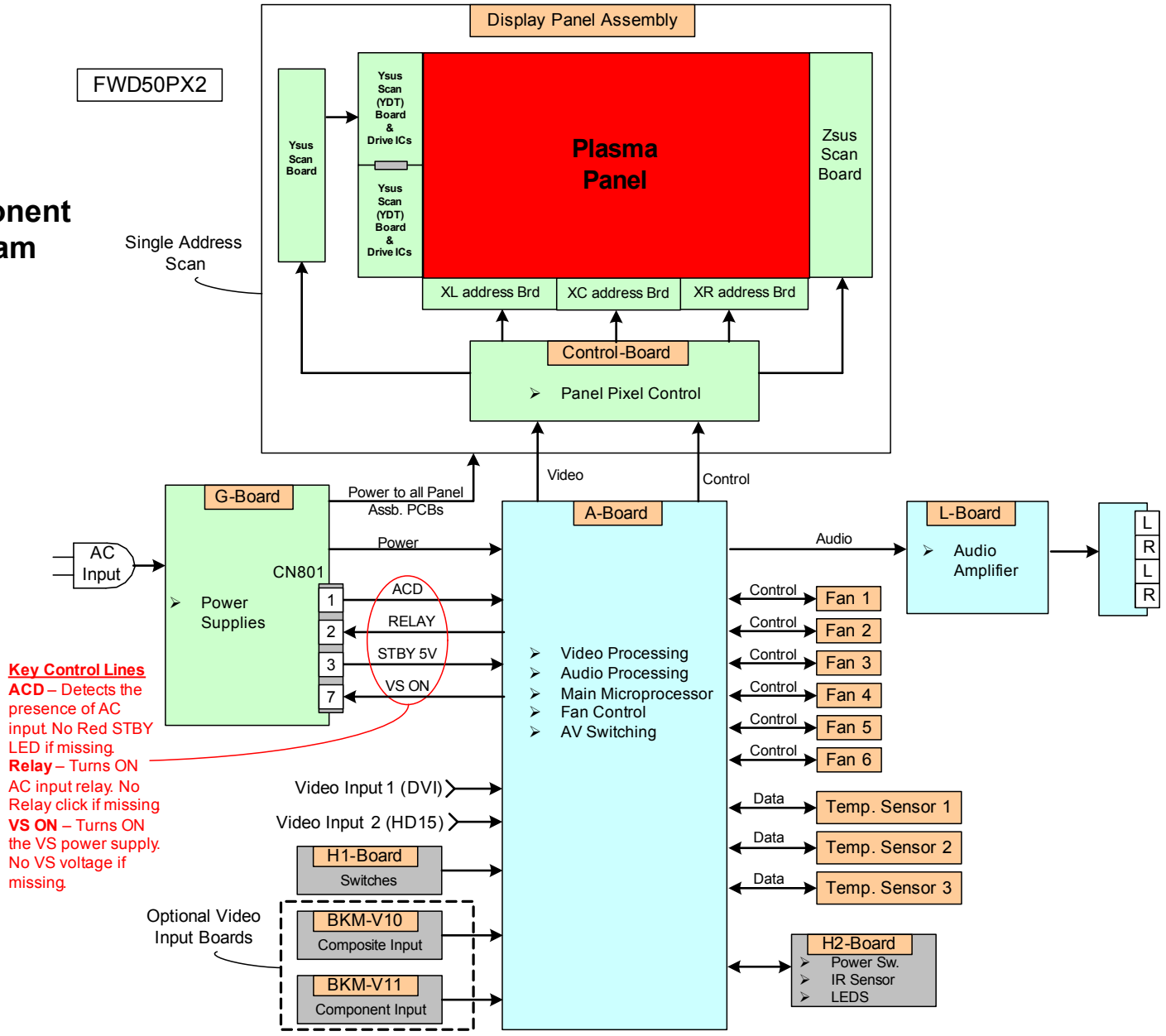
Pixelization & Black Areas In Video

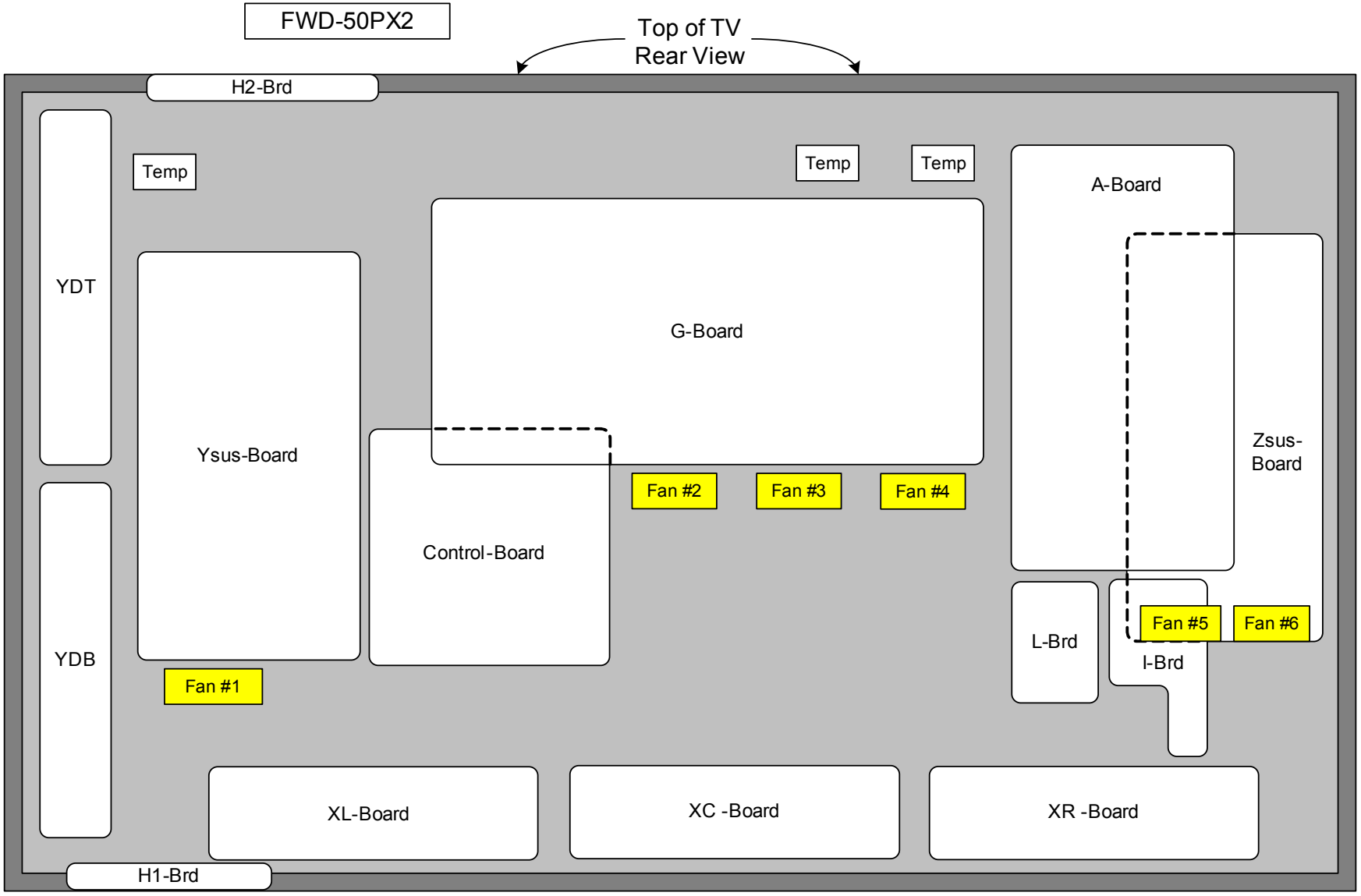
1st – Confirm connections and power supply voltages (VS & 5V) to Zsus board are secure.
Confirm Flex cable connections between Zsus board and Panel.

2nd –
A) Replace Zsus board (all connections and voltages OK)
B) Replace G-board (voltages NG)
C) Replace Plasma Panel (Flex cable NG)



Overall Component Block Diagram





PCB Location Diagram

Board Reference	FWD50PX2												
	2 Blinks	3 Blinks	4 Blinks	5 Blinks	Alternate Red & Green LED Flash	Amber LED ON	Red LED ON No Green LED	No Red LED No Green LED	Stationary V or H Line Failure	No Video (Green LED) (No Primer)	No Video (Green LED) (Primer OK)	No Audio	Part #
A	▲	▲	■*	▲	●	●	▲				●	▲	1-789-374-11
G				●	▲		●	●		▲		▲	1-789-375-11
Control Brd	●										▲		1-789-380-11
Ysus Brd										●			1-789-386-11
AC Input								▲					Check Condition
Fan #1		●											1-787-434-11
Fan #2		●											1-787-434-11
Fan #3		●											1-787-434-11
Fan #4		●											1-787-437-11
Fan #5		●											1-787-434-11
Fan #6		●											1-787-437-11
Plasma Panel									*●				1-802-006-11
Temp #1			▲										1-789-203-11
Temp #2			▲										1-789-203-11
Temp #3			▲										1-789-203-11
L				▲								●	1-789-376-11
Poor Ventilation			●										Check Condition
Problem	Panel	Fan	Temp	Voltage									

* Immediate Shutdown

***NOTE:** Check the Panel Distortion diagrams on the following pages for further failure symptoms and component replacement recommendations.

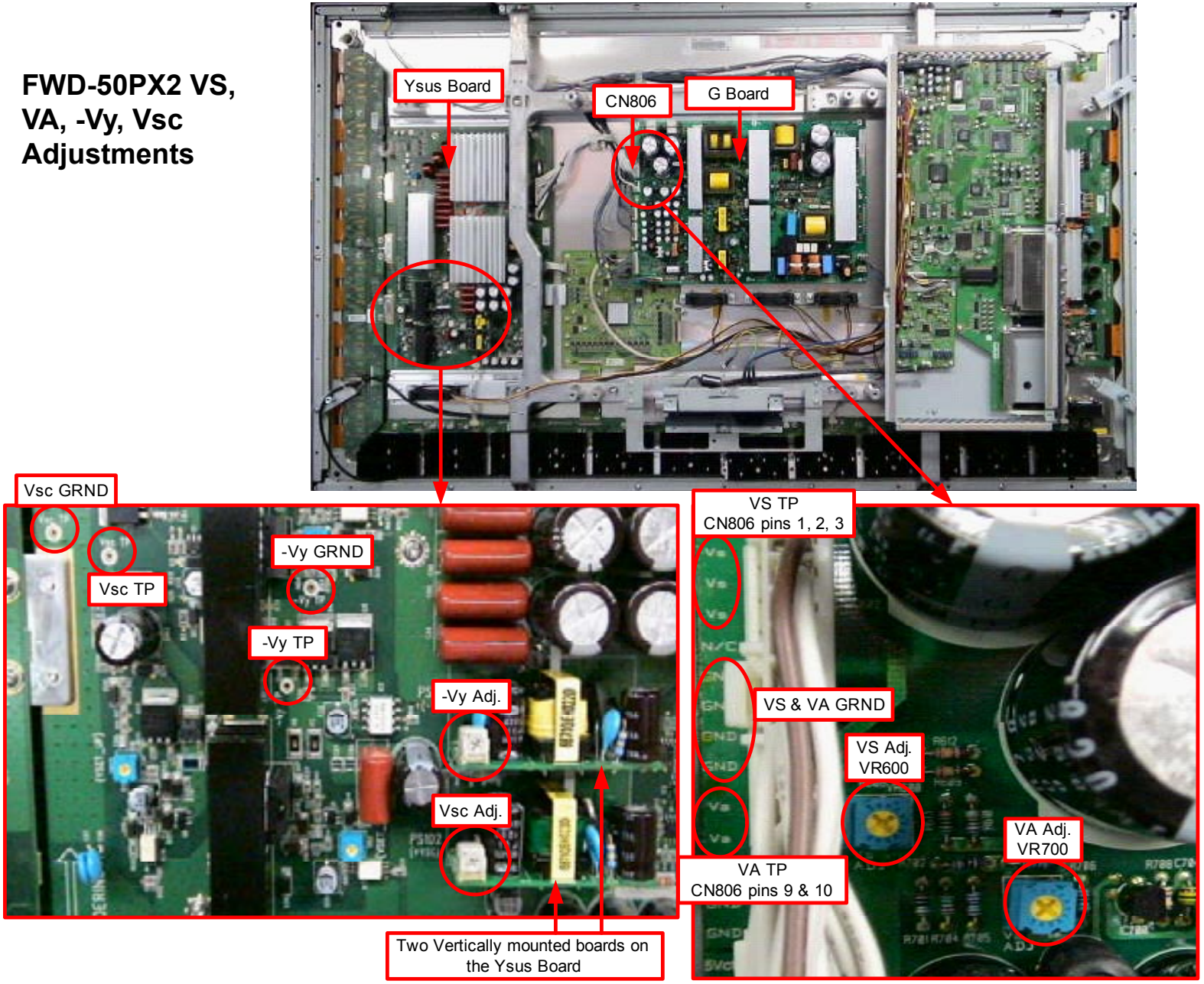
● **Primary Defective Part**

▲ **Secondary Defective Part**

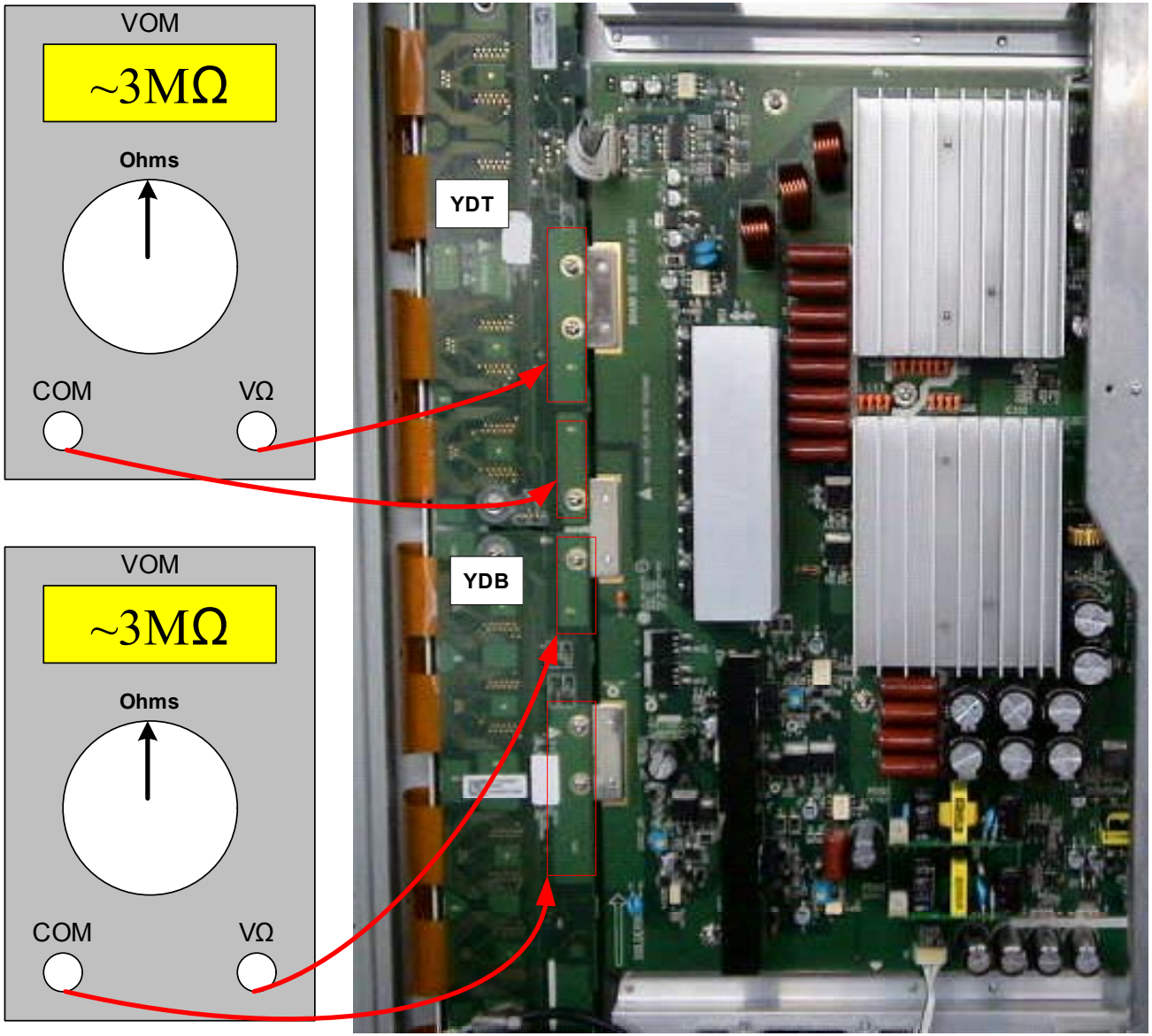
■ (Last Resort) Improbable Defective Part

Triage Chart

FWD-50PX2 VS, VA, -Vy, Vsc Adjustments



FWD-50PX2 YDT & YDB
Resistance Check



CAUTION: Remove power from unit before making the resistance measurement

NOTE: The resistance measurement between the com and VS voltage pads should read approximately 3M ohms with voltmeter leads oriented as shown in the diagram. If the voltmeter leads are reverse the reading will be infinite.

A typical faulty reading is 500 ohms. Replace the YDT or YDB if a low resistance is measured.

Panel Distortion Diagrams

No Video (Horizontal Black Bar) lower ½ of screen

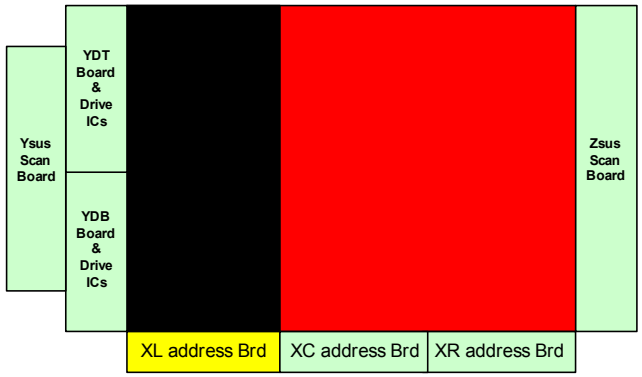
1st – Confirm secure connections between YDT and YDB boards. Check Flex Cable between YDB and Panel Assembly for physical damge.

Replace YDB board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable NG)

No Video (Horizontal Black Bar) upper ½ of screen

1st – Confirm secure connections between Ysus and YDT boards. Check Flex Cable between YDT and Panel Assembly for physical damge.

Replace YDT board (connections & Flex Cable OK)
Replace Panel Assembly (Flex Cable NG)



No Video (Vertical Black Bar) 1/3 of screen

1st – Confirm secure connections between XL and Control Boards.

2nd – Confirm 5V and VA voltages to XL board.

3rd – Replace boards in the following order.

A) Replace XL-Board
B) Replace Control Board

No Video (Vertical Black Bar) 1/3 of screen

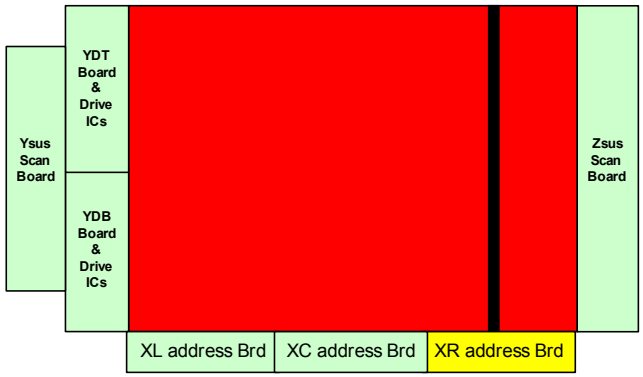
1st – Confirm secure connections between XR and Control Boards .

2nd – Confirm 5V and VA voltages to XR board.

3rd – Replace boards in the following order.

A) Replace XR-Board
B) Replace Control Board

Note: This same symptom can occur due to a defective XC board . Follow the same step listed above for the XL -board to troubleshoot a possible defective XC board .



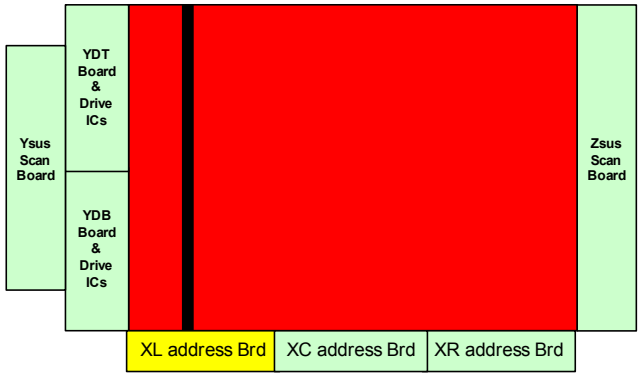
Single Vertical Black Line (right side of screen)

1st – Confirm secure connections between XR and Control Board .

2nd – Check the drive ICs on the flex cables between the XR and Panel for physical damage .

Replace Panel Assembly for defective flex cable ICs

3rd – Replace XR board



Single Vertical Black Line (left side of screen)

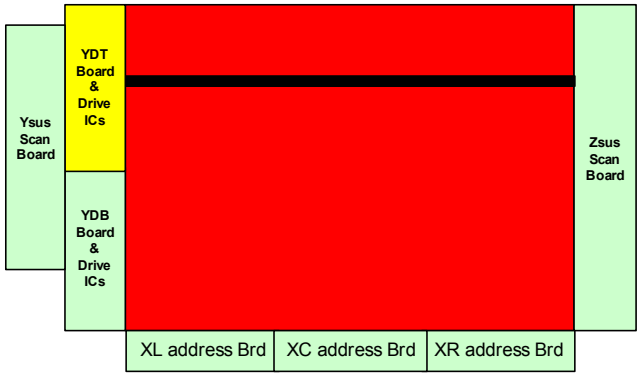
1st – Confirm secure connections between XL and Control Board .

2nd – Check the drive ICs on the flex cables between the XL and Panel for physical damage .

Replace Panel Assembly for defective flex cable ICs

3rd – Replace XL board

NOTE: This same type of symptom can occur due to a defective XC board . The single black line will occur in the center of the screen above the XC board .



Single Horizontal Black Line (upper half of screen)

1st – Confirm secure connections between YDT and Panel Assembly.

Replace Panel Assembly if flex cable is damaged

2nd – Check the drive ICs on the YDT board for physical damge.

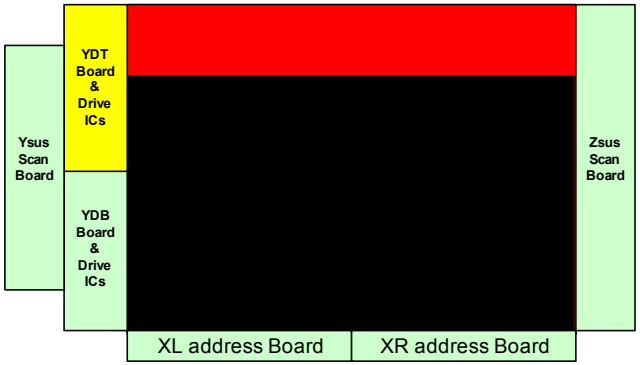
Replace YDT board if Ics are damaged.

Single Horizontal Black Line (lower half of screen)

1st – Confirm secure connections between YDB and Panel Assembly

2nd – Check the drive ICs on the YDB board for physical damage.

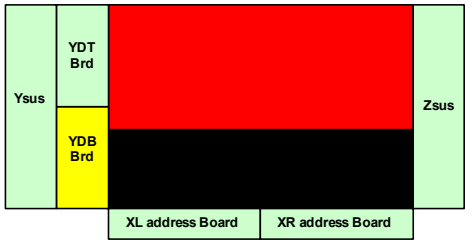
Replace YDB board if ICs are damaged.

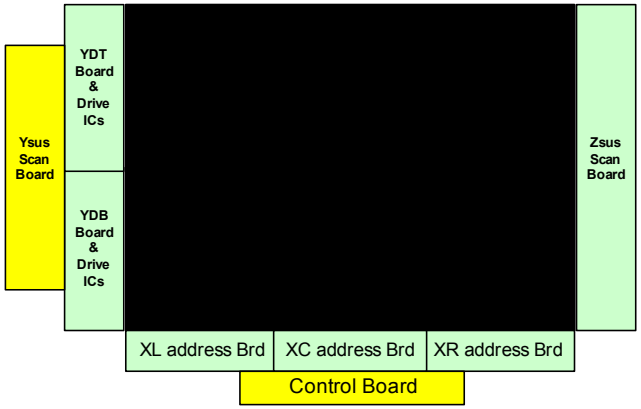


Single Defective Driver Board Buffer IC on YDT or YDB Board

1st – Replace the YDT or YDB board depending on where the horizontal black bar is located on the screen.

Note: One drive IC fails on the YDT or YDB board fails causing the successive drive ICs to not function. This symptom (a Black Bar less-than ½ the screen) can be located in the top or bottom half of the screen depending on if the failed IC is on the YDT or YDB board.





No Video – Black Raster

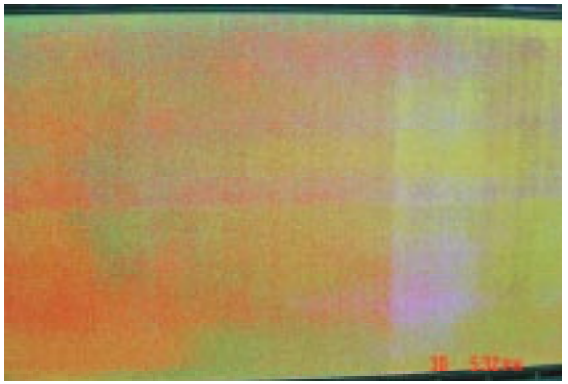
1st – Check flex cable connections between Ysus & YDT/YDB boards. Check VS and 5V power supplies to Ysus board.

Replace G-board (Volatge(s) NG)
Replace Ysus (Priming NG)
Replace Control Board (Priming OK)

2nd – Check connections between Ysus and Control boards are secure.
Connections & Voltages OK
A) Replace Ysus
B) Replace Control board

3rd – Check all voltages and connections to Zsus board.

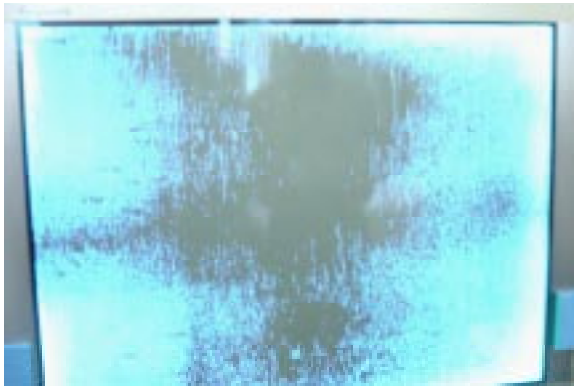
Replace Zsus (connections & voltages OK)



Pixelization & Black Areas In Video

1st – Confirm connections and power supply voltages (VS & 5V) to Zsus board are secure.
Confirm Flex cable connections between Zsus board and Panel.

2nd –
A) Replace Zsus board (all connections and voltages OK)
B) Replace G-board (voltages NG)
C) Replace Plasma Panel (Flex cable NG)



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